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Report on Surveys of DELAWARE MARYLAND Boundaries

Buford K. Meade

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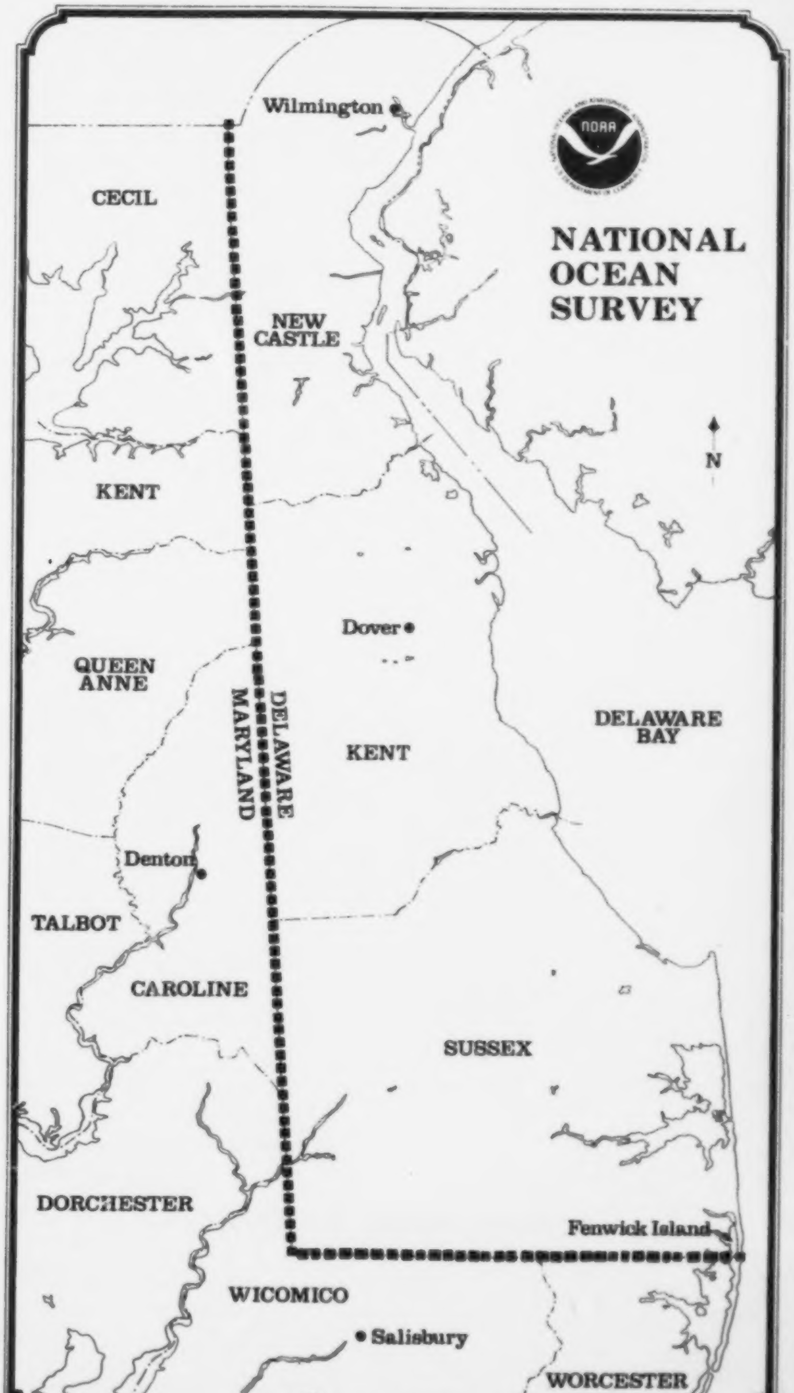
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Report on Surveys of DELAWARE MARYLAND Boundaries

In Cooperation with the States of
Delaware and Maryland

Buford K. Meade (Retired)
National Geodetic Survey
Rockville, Md. 20852

Printed in 1982

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National Ocean Survey
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Preface

To restore and maintain monuments along the boundaries between the States of Delaware and Maryland, officials of the two States recommended in the early 1950's that resurveys be performed of their common boundaries. In accordance with these recommendations, a resurvey of the north-south boundary (line BE, fig. 1) was made in 1961-62 by the U.S. Coast and Geodetic Survey (now the National Ocean Survey, a component of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration). Also, a resurvey of the east-west boundary by the National Ocean Survey was completed in 1974 (line AB, fig. 1). Results of these surveys were used for resetting monuments found to be disturbed and for establishing new markers where the original monuments had been destroyed.

The remonumentation of the boundaries was completed in 1977. (See page 15, Markers Established Along Boundary Between Original Monuments 25 and 35.) A ceremony to commemorate the completion of the resurveys was held on June 26, 1978, the 214th anniversary of the survey begun by Charles Mason and Jeremiah Dixon on June 26, 1764. [See National Oceanic and Atmospheric Administration (1978).] During the commemoration, a bronze plaque was erected at the ceremonial site, a point on the north-south boundary where the Mason-Dixon Line intersects with Maryland-Delaware Route 404 (about 8 miles southeast of Denton, Md.).

The original surveys and the resurveys of the east-west and north-south boundaries between the two States are discussed in this report. The various sections of the boundaries are identified in figure 1.

Note that the north-south boundary was laid out by Mason and Dixon in 1764 and 1765, prior to the survey of the east-west boundary between Pennsylvania and Maryland, generally referred to as the Mason-Dixon Line. Actually, the original Mason-Dixon Line includes the boundary between Delaware and Maryland that extends northward from the southwest corner of Delaware to the northeast corner of Maryland.

The resurveys of the Delaware-Maryland boundaries by the National Ocean Survey were carried out on a reimbursable basis with the two States. Complete cooperation was given by officials of both States in all phases of the operations. In addition, personnel representing Delaware and Maryland provided valuable assistance in the selection of sites and the setting of new markers along the boundaries.

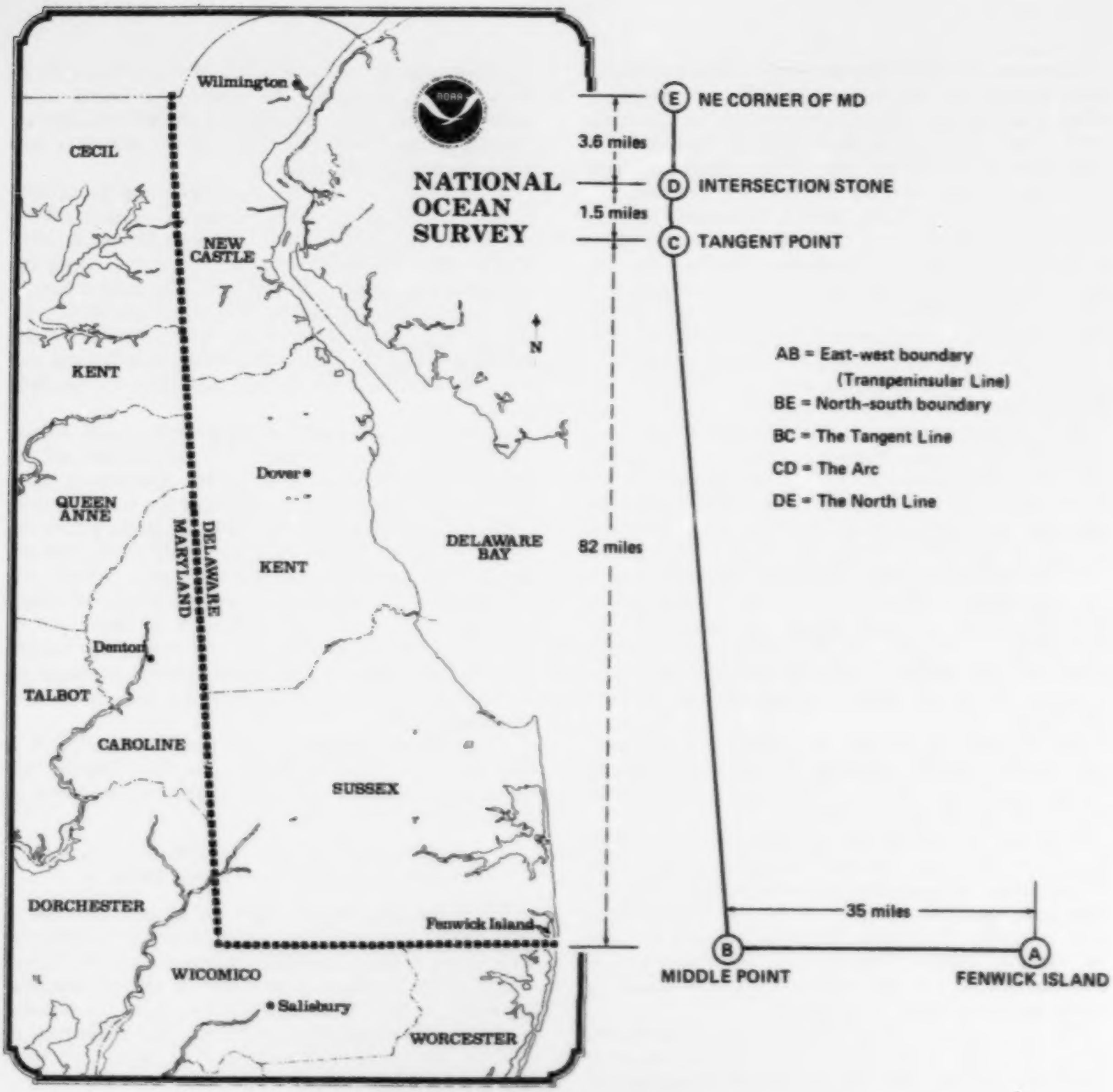
In this publication, all data concerning positioning of boundary, reference, and horizontal control stations are computed on the North American Datum of 1927 (NAD 1927). Descriptions of all monuments along the boundaries, as shown with the horizontal control data in this report, were prepared by field parties that performed the surveys. These descriptions were included in the permanent files of the National Geodetic Survey and were reproduced in the format submitted by the field parties.

A project is now underway to perform a new adjustment of the North American 1927 Datum that will result in a "redefinition" of the North American geodetic networks. The project is scheduled for completion in 1985, and the published data will be identified as the North American Datum of 1983 (NAD 1983). Whereas the 1927 positional data will undergo a change, this will neither affect the physical positions of marked points nor significantly alter the definition of their relative positions. Thus, when required, any part of the boundaries may be rerun or missing monuments replaced by using either 1927 or 1983 data but not, of course, interchangeably.

To maintain consistency with the old standard of 1 foot equals 12/39.37 m exactly, use the following factors when converting any data relating to resurveys of 1961-62 and 1974 in this report.

1 meter = 39.37/12 = 3.2808 33333 ft.
1 foot = 12/39.37 = 0.30480 06096 m.

When the International Foot was adopted in 1959, it was decided that any data in feet derived from and published as a result of geodetic surveys within the United States would continue to be based on the old standard identified as the "U.S. Survey Foot." [See the National Bureau of Standards (1959) for this definition as well as that of the International Foot based on 1 inch equals 25.4 mm exactly.]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QUEEN ANNE
DELAWARE
MARYLAND
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N
Denton
TALBOT
CAROLINE
SUSSEX
DORCHESTER
Fenwick Island
WICOMICO
Salisbury
WORCESTER
E NE CORNER OF MD
3.6 miles
D INTERSECTION STONE
1.5 miles
C TANGENT POINT
AB = East-west boundary (Transpeninsular Line)
BE = North-south boundary
BC = The Tangent Line
CD = The Arc
DE = The North Line
82 miles
35 miles
B MIDDLE POINT
A FENWICK ISLAND

FIGURE 1.—Delaware-Maryland boundaries identified in this report.

Contents

Preface ... iii
Introduction ... 1
Boundary disputes ... 2
Recommendations for resurvey of boundaries ... 2

PART ONE: EAST-WEST BOUNDARY ... 5
Colonial survey of 1751 ... 7
Resurvey by the National Geodetic Survey in 1974 ... 7
Analysis and adjustment of observational data ... 8
Recommendations by NGS for marking the boundary at 1-mile intervals ... 13
Markers established along boundary between original monuments 25 and 35 ... 15
Seaward extension of the east-west boundary ... 15
Horizontal control data for the east-west boundary monuments ... 16
Horizontal control data for the east-west boundary traverse and/or triangulation stations ... 52

PART TWO: NORTH-SOUTH BOUNDARY ... 89
Definition of the boundary ... 91
Colonial survey of the Tangent Line, 1761-63 ... 91
Mason-Dixon survey of the north-south boundary ... 91
Graham resurvey of the Arc and North Line in 1849-50 ... 93
Resurvey by the US Coast and Geodetic Survey in 1961-62 ... 93
Horizontal control data for the north-south boundary monuments ... 104
Horizontal control data for the north-south boundary traverse and/or triangulation stations ... 202

REFERENCES ... 291

PART THREE: APPENDIXES ... 293
Appendix A. Cooperative Agreement for a Resurvey of the Delaware-Maryland East-West Boundary ... 295
Appendix B. Memorandum of Understanding Between the State of Delaware and the State of Maryland Concerning the Resurvey of the Transpeninsular (East-West) Boundary Line ... 296
Appendix C. Joint agreement between the States of Delaware and Maryland ... 297
Appendix D. Lord Hardwicke's decree in Penn vs. Baltimore ... 298
Appendix E. Final agreement between Lord Baltimore and Penn heirs ... 300

FIGURES

1. Delaware-Maryland boundaries identified in this report ... iv
2. Information as given in the National Geodetic Survey project report of the 1974 resurvey of the east-west boundary ... 8
3. The 1974 east-west boundary survey depiction of section 1 ... 9
4. The 1974 east-west boundary survey depiction of section 2 ... 10
5. The 1974 east-west boundary survey depiction of section 3 ... 11
6. Markers along east-west boundary, Fenwick Island to Middle Point ... 12
7. The 1961-62 north-south boundary survey depiction of sections 1, 2, and 3 ... 94
8. Markers along north-south boundary, Middle Point to NE Corner Maryland ... 97
9. Mean curve of Tangent Line as determined from survey of 1961-62 ... 100
10. Reproduction of original map in the agreement between Lord Baltimore and Penn heirs (from appendix E) ... 294

TABLES

1. Azimuths to verify setting new markers on east-west boundary ... 13
2. Azimuth and distance between monuments along east-west boundary ... 14
3. Boundary monuments and traverse or triangulation stations from which the monuments were established ... 14
4. Azimuths to verify setting of new markers and resetting old monuments on north-south boundary ... 101
5. Azimuth and distance between monuments along north-south boundary ... 101
6. Boundary monuments and traverse or triangulation stations from which the monuments were positioned or established ... 102

REPORT ON SURVEYS OF DELAWARE-MARYLAND BOUNDARIES

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Rockville, Md.

INTRODUCTION

This report contains brief discussions of the various surveys that have been performed to delineate the boundaries (fig. 1) between the States of Delaware and Maryland. Descriptions, geographic positions, and State plane coordinates of the original monuments and new markers established along the boundaries are included as part of this report. Also included are the horizontal control data and descriptions of triangulation stations that were established at approximately 1-mile intervals in the vicinity of each boundary monument.

The east-west boundary (laid out originally by colonial surveyors in 1751) extends westward about 35 miles from the Atlantic Ocean at Fenwick Island to Middle Point, which is halfway from the Atlantic Ocean to Chesapeake Bay. A resurvey of this boundary was performed by the National Ocean Survey of the National Oceanic and Atmospheric Administration (U.S. Department of Commerce) in 1974. Surveys along this section of the boundary are discussed in part one of this report.

The north-south boundary, extending from Middle Point on the east-west boundary to the northeast corner of Maryland, was laid out by Charles Mason and Jeremiah Dixon in 1764 and 1765. Surveys along this boundary are discussed in part two.

These boundaries are defined in a final agreement (in appendix E and partially quoted below) between Lord Baltimore and the Penn heirs, dated July 4, 1760:

> *First, that the draft or plan printed upon the margin of this skin of parchment which contains a map of the peninsula hereinbefore mentioned, and also of the tracts of ground wherein the said Province of Maryland (or part thereof) the said Three Lower Countys, Part of the said Province of Pensilvania and part of Virginia do lye, is a true copy of those which had been sent over from America to the present partys hereto by their respective Agents in those parts, for the assistance and guidance of the said partys in the settling of the said disputes, and by which this present agreement is to be explained and understood. Second, that there shall be the said circle mentioned in the said charter for Pensilvania, and Deed of Bargain and Sale or Feoffment of Newcastle, (or so much thereof as is requisite) drawn and markt out at the twelve miles distance from the Town of Newcastle, which twelve miles shall be twelve English Statute miles. Third, that a due east and west line shall be drawn across the said Peninsula (or across so much of it as shall be requisite) such east and west line to begin on the east part at the place in the said draft or map called Cape Henlopen (which lyes south of Cape Cornelius) upon the eastern side of the said Peninsula towards the Main Ocean, and at the point of the said Cape, and to run towards the western side of the said Peninsula, which lyes upon the CHESOPEAK Bay, but to stop in the exact middle of that part of the same Peninsula, when so running a due east and west course. Fourth, that from the westward point or end of the said east and west line (which westward point or end shall be just half way across the said Peninsula) a straight line shall run northward, up the said Peninsula, (and above the said Peninsula if it require it) till it shall so touch the western part of the periphery of the said circle as to make a tangent thereto. The said strait line as at present apprehended will run pretty near south and north, but (however it may bear on the compass) such strait line shall be run northward up the said Peninsula (and above the said Peninsula if it require it) and shall begin at and from the western point or end of the aforesaid east and west line, and shall run until it touches and makes a tangent to the western part of the said periphery of the said circle, and there the said straight line shall end. Fifth, that at the northern point or end of the said strait line, a line shall begin, and shall from thence run due north above the said Peninsula, but so far only until it comes into the same latitude as fifteen English Statute miles, due south of the most southern part of the City of Philadelphia. Sixth, that a due east and west line shall be run in manner following: It shall begin at the northern point or end of the said due south and north line, and shall from thence run due west across Susquehannah River, to the utmost western extent of the said Province of Pensilvania....*

The sixth part of the agreement is the east-west boundary between Maryland and Pennsylvania and is generally referred to as the Mason-Dixon Line. In the agreement, the boundary lines as quoted are repeated and followed by:

> *...these are and shall be, and shall at all times for ever hereafter, be allowed and esteemed to be the true and exact limits and bounds between the said Province of Maryland and the said Three Lower Counties of Newcastle, Kent and Sussex, and between the said Provinces of Maryland and Pensilvania, excepting only, that in case the said north line from the tangent of the circle of Newcastle shall break in upon the said circle. In such case, so much of the said circle as shall be cut off by the said line, shall belong to and be part of the County of Newcastle.*

In the 1760 agreement, the present State of Delaware is identified as the three lower counties of the Province of Pennsylvania. This fact is clarified by the following statement from Munroe (1978a).

> *After William Penn received his royal grant of a province, which was to be bounded by a circular line 12-miles north of New Castle, he appealed to the Duke of York to cede the land between Pennsylvania and the ocean so the new province would not be land-locked. The Duke agreed and ceded his rights by four documents, two deeds and two leases, in August 1682. However, his formal grant from Charles II was not received until March 1683.*

This territory identified as the three lower counties, now the State of Delaware (the first State to ratify the U.S. Constitution), shared the Governor of Pennsylvania but had a separate legislature before the Revolutionary War. [For detailed historical information concerning the State of Delaware, refer to Munroe (1978b).]

Boundary Disputes

Before the 1760 agreement was reached, various attempts were made to settle the boundary disputes that had been going on for more than 80 years. These disputes, between the Lords Baltimore and the Penn heirs, were due primarily to ambiguities that existed in the boundaries as defined in the original grants of the two provinces. The Maryland Charter (Bayliff 1959) was granted to George Calvert, first Lord Baltimore, in 1632 by King Charles I of England. Then, 49 years later, the Pennsylvania grant to William Penn resulted in the loss of a large part of Lord Baltimore's grant (Hodgkins 1893, Bayliff 1959).

A provisional agreement in 1732 provided for a line, as shown in figure 1, to be drawn due west from Cape Henlopen at Fenwick Island across the peninsula to Chesapeake Bay. The north-south boundary would then extend northward from Middle Point (identified as B to C, fig. 1) to a point where the line would be tangent to a circle of 12-mile radius, with center at New Castle Courthouse. From the Tangent Point the boundary would follow the arc of the New Castle circle to the Intersection (identified as D, fig. 1) with the meridian through Tangent Point. From the point of intersection the boundary would extend northward along the meridian to a parallel of latitude 15 miles south of the southerly limits of Philadelphia (identified as E, fig. 1).

Following this agreement, commissioners of the two provinces met on several occasions to resolve three questions: (1) what should be the center of the circle around New Castle, (2) whether the circle should be of 12-mile radius or 12 miles in circumference, and (3) where the Cape, called Cape Henlopen in the articles of agreement, is situated. After discussing these questions at numerous meetings, the commissioners signed a joint statement that they could not reach an agreement.

These issues were finally settled in 1750 by Lord Hardwicke, High Chancellor of the English Crown, who issued a decree (partially quoted below) reinforcing provisions of earlier arrangements made in 1685 and 1732 (Bayliff 1959):

> *...his Lordship Doth Declare that he is of the opinion that according to the true intent and instruction of the said articles, the center of the said circle ought to be fixed in the middle of the town of New Castle as near as the same can be computed, and that the said circle ought to be of a radius or semi-diameter of twelve miles, and that Cape Henlopen ought to be deemed and taken to be situated at the place where the same is laid down and described in the map or plan annexed to the said articles to be situated.*

On this map, which Lord Baltimore disputed, Cape Henlopen was placed at Fenwick Island about 15 miles south of the cape now known as Cape Henlopen.

The boundary as defined in the final agreement of 1760 was essentially the same as the provisional agreement of 1732 and reinforced by Lord Hardwicke's degree of 1750. Copies of Lord Hardwicke's degree and the 1760 agreement are included with this report as appendixes D and E, respectively.

Recommendations for Resurvey of Boundaries

In the early 1950's, an inspection was made of all monuments along the Maryland-Delaware boundaries (fig. 1). The majority of the monuments, established about 200 years earlier, were generally in good condition. Some of the monuments, however, were chipped or broken, and some were out of position or missing. A report on the condition of each monument was then published by the Maryland Board of Natural Resources (Bayliff 1959). As a result of this inspection, officials of the two States held a special meeting in January 1954 and agreed on a plan for the restoration and maintenance of their common boundaries. The following is a partial quote from Bayliff:

> *FIRST, Maryland and Delaware will request Congress to pass an act directing the U.S. Coast and Geodetic Survey to resurvey the Maryland-Delaware boundaries with the following objectives: (a) To reproduce with the greatest possible fidelity the original Maryland-Delaware boundaries laid down by Colonial surveyors in 1751 and by Mason and Dixon during the years 1763-67; (b) To locate as accurately as possible the original position of each marker installed on these boundaries; and (c) To tie the original position of each boundary marker to the triangulation system of the surrounding territory so that the correct position of any marker can be accurately determined at any time in the future.*

In accordance with these recommendations, a bill (U.S. Congress 1955) was passed by the 84th Congress and signed by President Eisenhower on August 11. This bill states:

> *The Secretary of Commerce, acting through the Coast and Geodetic Survey, is authorized and directed, upon the joint request of (1) the Board of Natural Resources of the State of Maryland, and (2) the State Archivist and the Chief Engineer of the Highway Department of the State of Delaware, to resurvey that part of the common boundary running generally north and south between the States of Maryland and Delaware which was originally surveyed and marked by Charles Mason and Jeremiah Dixon in the years 1763-1767 with a view to assisting such States to remark or otherwise delineate such boundary.*

In this bill, Congress did not provide funds to carry out the resurvey as directed; however, in 1956 the Coast and Geodetic Survey (presently, the National Ocean Survey) made a reconnaissance of the north-south and the east-west boundaries between the two States to report on the condition of all boundary monuments and to recover the triangulation stations that would be required to connect the boundary survey to the national network of horizontal control. Following this reconnaissance survey, no action was taken by the Coast and Geodetic Survey to perform a resurvey of the boundaries because funds still had not been appropriated. Then, in the early part of 1961, the Secretary of Commerce directed the Coast and Geodetic Survey to make a resurvey of the north-south boundary in accordance with the Congressional Act of 1955.

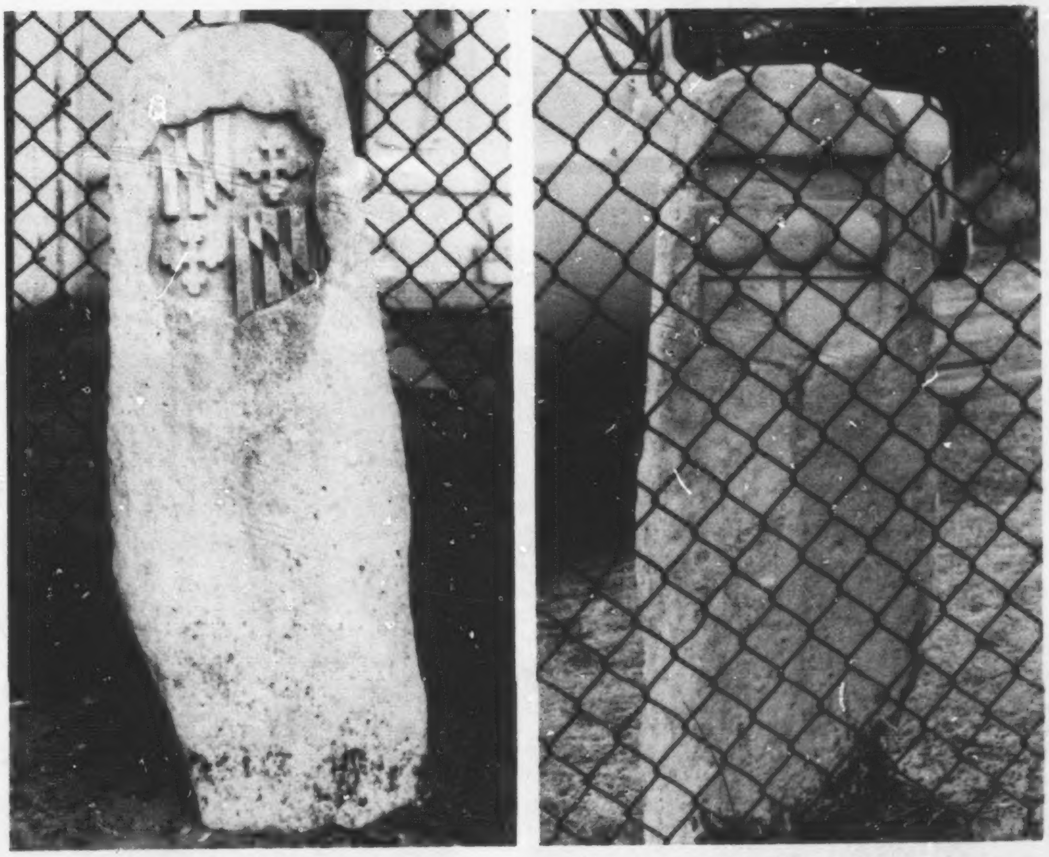
As directed by the Secretary of Commerce, the Deputy Director of the Coast and Geodetic Survey issued instructions, dated August 21, 1961, to one of the Survey's field parties to perform a resurvey of the north-south boundary between the States of Delaware and Maryland. Field operations were started on this project on August 31, 1961; the project was completed on March 31, 1962.

While the north-south boundary resurvey was in progress, officials of Maryland and Delaware made a request to the Director, C&GS, that a resurvey of the east-west boundary be performed following completion of the north-south boundary resurvey. A letter from the Director to the State officials, dated December 15, 1961, states:

> *You probably are aware that the current work is being done in accordance with a bill passed by Congress in 1955. At present, we do not have funds for an extension of the boundary survey, and such an undertaking with federal funds would have to be approved by Congress. Perhaps the States of Delaware and Maryland would be interested in promoting the project.*

The State officials were interested in promoting this resurvey because, in the original survey of 1751, the boundary monuments had been established at intervals of 5 miles. However, final action for a resurvey of the east-west boundary was not taken until 1973. Then, in the latter part of 1973, an agreement on a cost-sharing basis was signed by officials of the two States and by the Director, National Ocean Survey (formerly the Coast and Geodetic Survey) for a resurvey of the east-west boundary. (See appendix A.) Details concerning resurveys of the east-west and north-south boundaries are given in parts one and two, respectively.

Part One
East - West Boundary

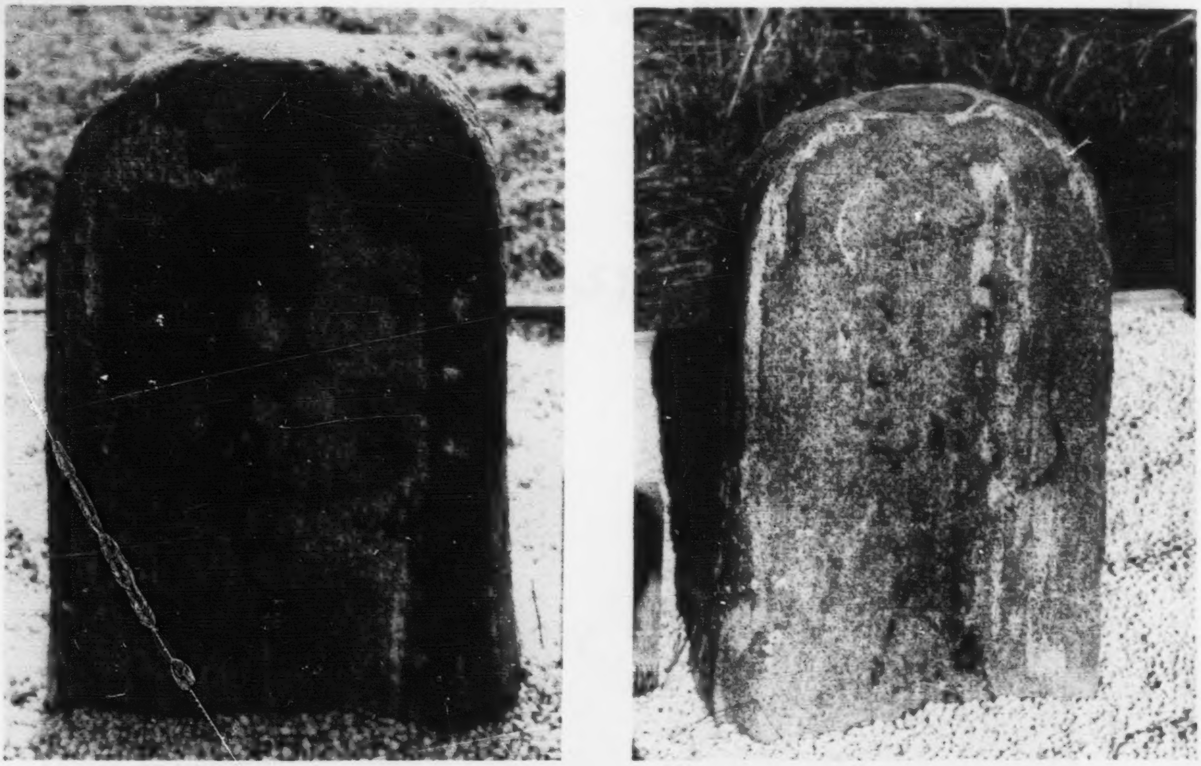


(A)

(B)

Courtesy of: Ralph Poust

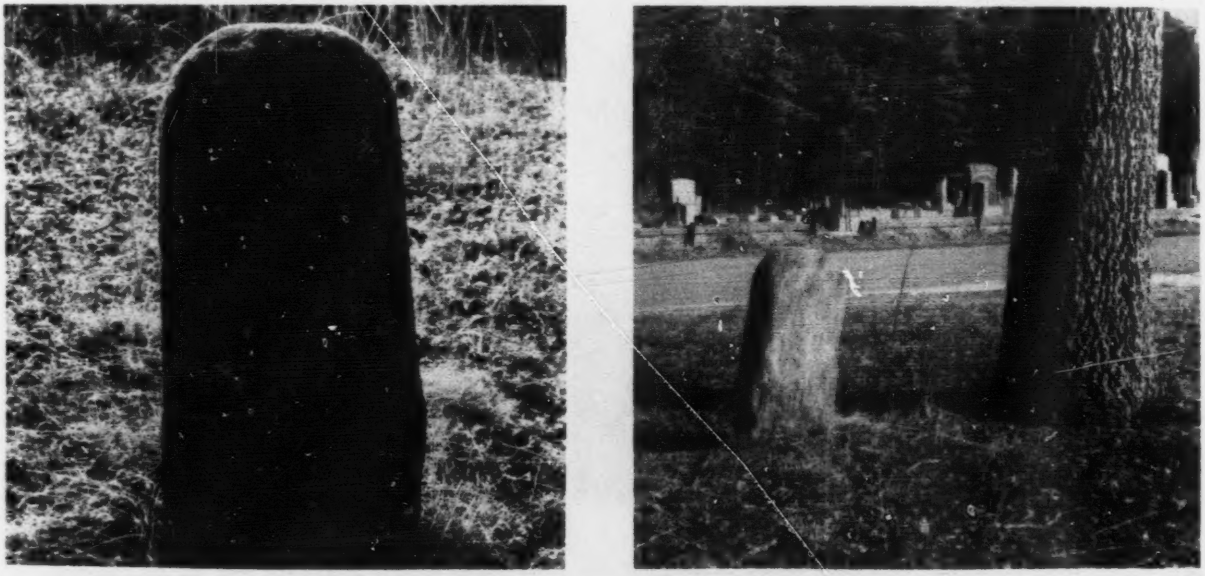
Fenwick Island boundary stone. Monument No. 0 of the east-west boundary was set by colonial surveyors in 1751. (A) South (Maryland) side of boundary monument shows Calvert coat of arms. (B) North (Delaware) side shows Penn coat of arms.



Courtesy of: Ralph Poust

(A) (B)

Boundary Monument No. 10 of the east-west boundary, set by colonial surveyors in 1751. U.S. Coast and Geodetic Survey triangulation station disk, stamped NORMAN 1932, is set in top of monument. (A) North (Delaware) side of monument. (B) South (Maryland) side of monument.



Courtesy of: Ralph Poust

(A) (B)

Boundary Monument No. 20 of the east-west boundary, set by Colonial surveyors in 1751. There are no markings on this monument. (A) North (Delaware) side of monument. (B) South (Maryland) side of monument.

PART ONE

EAST-WEST BOUNDARY

Colonial Survey of 1751

In accordance with the decree by Lord Hardwicke in May 1750, commissioners from the provinces of Maryland and Pennsylvania met in the latter part of 1750 and agreed that surveyors employed on both sides should run the boundary line from Fenwick Island to the Chesapeake Bay (fig. 1). This boundary survey, identified as the Transpeninsular Line, was started in January 1751, and the line was extended to a point about 6 miles west of Fenwick Island. At this point, the survey operations were discontinued because of very bad weather. The surveyors resumed their operations in April 1751 and extended the line westward to the eastern side of the Chesapeake Bay. [See Bayliff (1959).]

This survey was accepted by commissioners of the two provinces, and, as stated in the final agreement of July 4, 1760 (also shown in appendix E), the following measurements are given:

> *That the said spot or point, or place for beginning such due west line was and is, and shall at all times forever hereafter be established, held, taken and adjudged to be, where the said Commissioners so agreed upon, fixed and determined the same to be, namely, at a point on the verge of the Main Ocean, being at the distance of 139 Perches due east from a stone fixed by the said Commissioners, on the northern part of the land called Fenwick's Island.... That the true length and extent of the said west line was and is, and shall at all times for ever hereafter be esteemed, held, taken, and adjudged to be 69 miles and 298 Perches, neither more nor less. That consequently the exact middle of such west line, (from whence the other line is to begin, which is to run up the said peninsula till it makes a tangent to the western part of the periphery of the said part of circle, at the distance of 12 English statute miles horizontally, measured from the Court House in the said town of Newcastle), was and is, and shall at all times forever hereafter be esteemed, held, taken and adjudged to be at the exact distance of 34 of the said miles and 309 Perches so measured, west from the afore said spot or point, or place of beginning of the said west line.*

In the 1751 survey of the east-west boundary, stone monuments were set at Fenwick Island, the initial point of the boundary at a distance of 139 perches due west from the ocean, and at 5, 10, 20, and 25 miles from the ocean. At the start of the survey, it was thought that a distance of 25 miles from the ocean might be halfway across the peninsula; and the halfway point was defined as the western terminal of the east-west boundary. The total distance across the peninsula was found to be 69 miles and 298 perches; therefore, the terminal point (identified as MIDDLE POINT) was half the total distance, or 34 miles, 309 perches from the Atlantic Ocean. (A perch equals 16.5 feet.) Posts were then set at the MIDDLE POINT and at the 30-mile point, and stone monuments were set at these two points in 1760. The stone monument identified as the 35-mile marker was set 32 inches north of the true MIDDLE POINT. Then in 1768, a double crownstone was set at MIDDLE POINT by Mason and Dixon.

When the east-west boundary survey was started in 1751, the surveyors were instructed to set posts at intervals of 1 mile along the boundary. However, if these instructions were carried out, there have been no reports that any of the posts have been found. The seven monuments set in the original survey, five set in 1751 and two set in 1760, were cut from native stone. The monuments are from 2 to 3 ft in height and about 6 in. by 12 in. in cross section. On the south side of each monument was inscribed the arms of Lord Baltimore, and on the north side the arms of the Penns. In the general vicinity of the 15-mile point along the boundary, there was no convenient place to establish a marker because of swamps in the area. Descriptive information for each monument along the boundary, except for Number 30 that was reported lost in 1972, is given with the horizontal control data at the end of part one.

Resurvey by the National Geodetic Survey in 1974

A cooperative agreement between the States of Delaware and Maryland and the National Geodetic Survey (presently, a component of the National Ocean Survey of the National Oceanic and Atmospheric Administration) for a resurvey of the east-west boundary was signed in the latter part of 1973. A copy of this agreement is given as appendix A of this report.

Before all parties had signed the cooperative agreement, instructions were issued by the Director, National Geodetic Survey, to a field party of NGS to perform a reconnaissance survey of the boundary. The reconnaissance was carried out in accordance with the instructions, and this phase of the operations was completed in the early part of November 1973. Then on November 30, 1973, instructions were issued by the Director to one of the NGS field parties to begin observations for a resurvey of the east-west transpeninsular Maryland-Delaware boundary line. These instructions stated:

> *Observations should begin at station FENWICK ISLAND 1932 RM 5 and proceed west to station MD-DEL CORNER RM 4 (MIDDLE POINT). Traverse stations are to be established along the boundary at intervals of approximately one mile. After the survey is completed, the States of Maryland and Delaware, with the cooperation of NGS, will establish permanent monuments to mark the boundary. Observations on the project will conform to specifications for Second-Order, Class I, Electro-Optical Traverse as per memorandum dated November 2, 1970. Bench mark connections will be made at periodic intervals along the traverse and vertical angles observed over all lines.*

The resurvey was started the last week in January 1974, and observations were completed during the first week of June 1974. (See fig. 2.)

All of the 5-mile monuments established in the original survey, except the 30-mile monument, were recovered in the resurvey of 1974. However, the original stone Number 25 was reset about 13 ft south of the boundary during highway construction in the early 1950's. At that time, a pin was set under a manhole cover to mark the original location of the boundary monument. The stone, as set by the highway department, was positioned in the resurvey; it is identified as Boundary Monument 25 Offset.

Analysis and Adjustment of Observational Data

All observational data relating to the 1974 resurvey were submitted to the Rockville, Md., Office of the National Geodetic Survey shortly after the project was completed. The data were first reviewed and checked; then a free adjustment was made to evaluate accuracies obtained in the survey. In this adjustment, only one station was held fixed in position; and all observed directions and distance measures were used as observation equations. Results of the free adjustment indicated that all points along the boundary were established well within the specified accuracy. Also, the results showed that all stations in the survey, which had been established in previous surveys, could be used as control in a constrained adjustment. Stations used as control in the constrained adjustment include four boundary monuments that were positioned in a survey extension of the national net in 1932. These stations are the initial monument at Fenwick Island (Monument 0), Monuments 10, 20, and MD DEL CORNER (MIDDLE POINT or Monument 35). Figures 3, 4, and 5 show all new points established and old points recovered in the 1974 survey. Figure 6 shows all monuments along the boundary with relation to roads throughout the area.

REPORT ON FIELD WORK OF 1974 RESURVEY OF EAST-WEST BOUNDARY

A —All field work conformed to specifications for a second-order, class I, electro-optical traverse as outlined in a memorandum dated November 2, 1970, as stated in the project instructions.

B 1—The project consisted basically of two traverses. One used primarily old stations and existing boundary markers along the traverse route. The stations were approximately 5 miles apart. All of these stations had Bilby steel towers erected over them, and all work was done at night from these stations. At intervals of approximately 1 mile between the above stations, new stations were established. The purpose of these new stations is to aid in monumentation of the Maryland-Delaware boundary. Broken leg ground traverses were used to connect the 1-mile stations to the 5-mile stations. The ground traverses were then projected onto the 5-mile sections. The electronic distance measuring equipment used along the ground traverse provided an independent check on the equipment used on the 5-mile lines.

B 2—A minimum of eight circle positions on all stations was taken with a Wild T-3 theodolite. All 1-mile stations have a permanent reference/azimuth mark to be used later when permanent boundary marks are established from the 1-mile stations. The ground traverses were performed between 0800 and 1700 hours, whereas the 5-mile stations were occupied during the late afternoon and early evening.

B 3—All instruments on towers were centered carefully with Kern Optical Collimators to assure proper accuracy. All tripods were plumbed over marks or temporary points before their use.

B 4—All distances greater than 2000 meters were measured with an AGA Geodimeter Model 4L-6A, Serial No. 284L. The short ground traverse lines were measured with a Hewlett-Packard Model 3800 distance measuring instrument. The short lines measured with the HP 3800 were measured in both directions to assure accuracy of the measurement. The Geodimeter measurements consisted of four reflector settings, one each at +0.4-meter and at −0.4-meter offsets and two each at the zero point. Temperature and barometric pressure were monitored and recorded at all times during measurements with both instruments.

B 5—Bench-mark ties necessary to determine and control elevations for the reduction of distance measurements were observed with a Zeiss NI 2 self-leveling level. Five bench marks were incorporated into the traverse.

STATISTICS

Length of traverse in miles	39.6
New stations established	31
Stations recovered	14
Stations occupied	38
Traverse loops	10
Average height of towers (ft)	97
Number of lines measured with Geodimeter	14
Number of lines measured with HP-3800	106

FIGURE 2.—Information as given in the National Geodetic Survey project report of the 1974 resurvey of the east-west boundary.

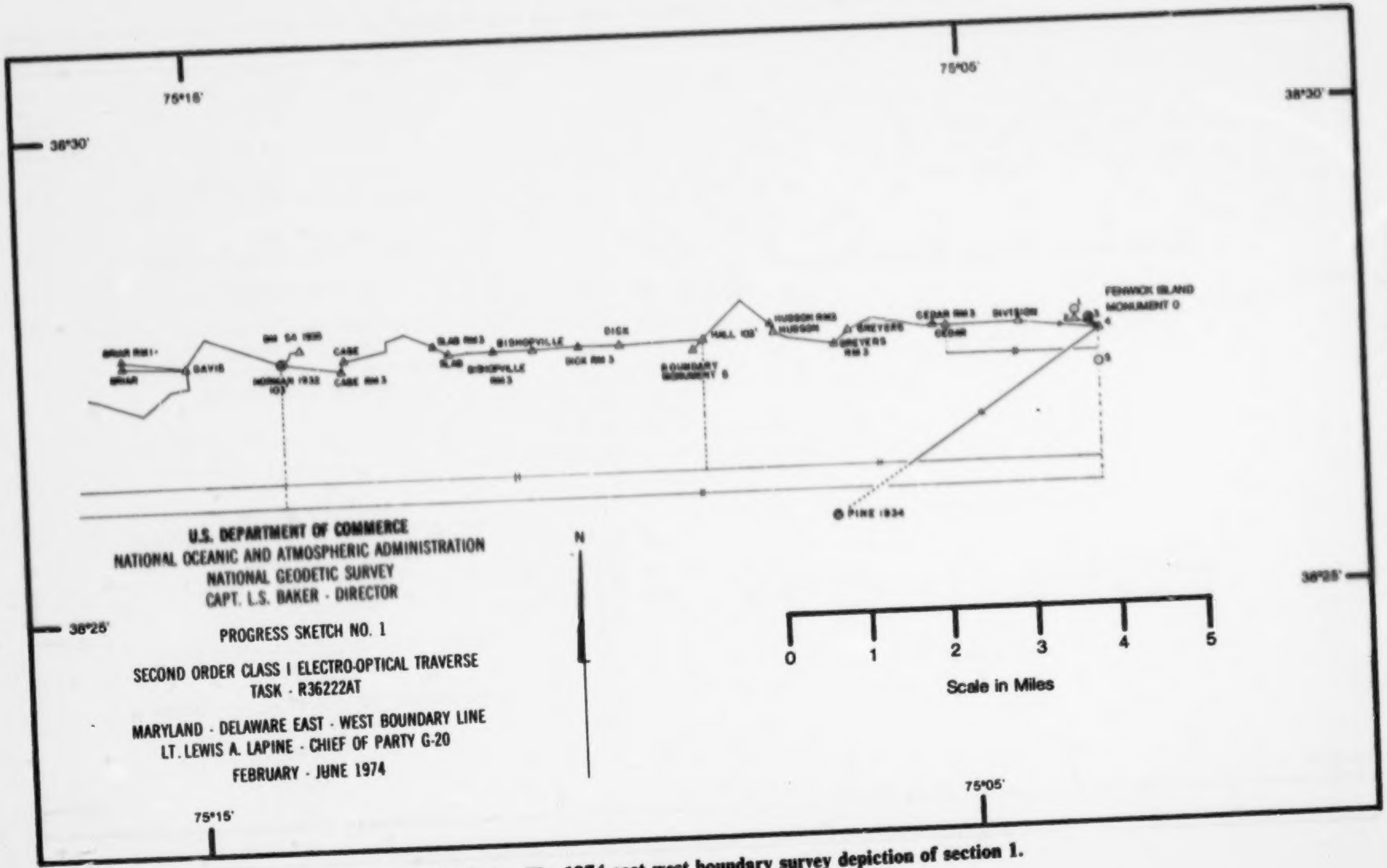

75°15'
75°05'
38°30'
38°30'
38°25'
38°25'
75°15'
75°05'
BRIAR RM 1
BRIAR
DAVIS
BM SA 1936
NORMAN 1932
CASE
CASE RM 3
SLAB RM 3
SLAB
BISHOPVILLE
BISHOPVILLE RM 3
DICK RM 3
DICK
BOUNDARY MONUMENT 5
HALL 102
HUDSON RM 3
HUDSON
GREYERS
GREYERS RM 3
CEDAR RM 3
CEDAR
DIVISION
FENWICK ISLAND MONUMENT 0
4
5
PINE 1934
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY
CAPT. L.S. BAKER - DIRECTOR
PROGRESS SKETCH NO. 1
SECOND ORDER CLASS I ELECTRO-OPTICAL TRAVERSE
TASK - R36222AT
MARYLAND - DELAWARE EAST - WEST BOUNDARY LINE
LT. LEWIS A. LAPINE - CHIEF OF PARTY G-20
FEBRUARY - JUNE 1974
N
0
1
2
3
4
5
Scale in Miles

FIGURE 3.—The 1974 east-west boundary survey depiction of section 1.

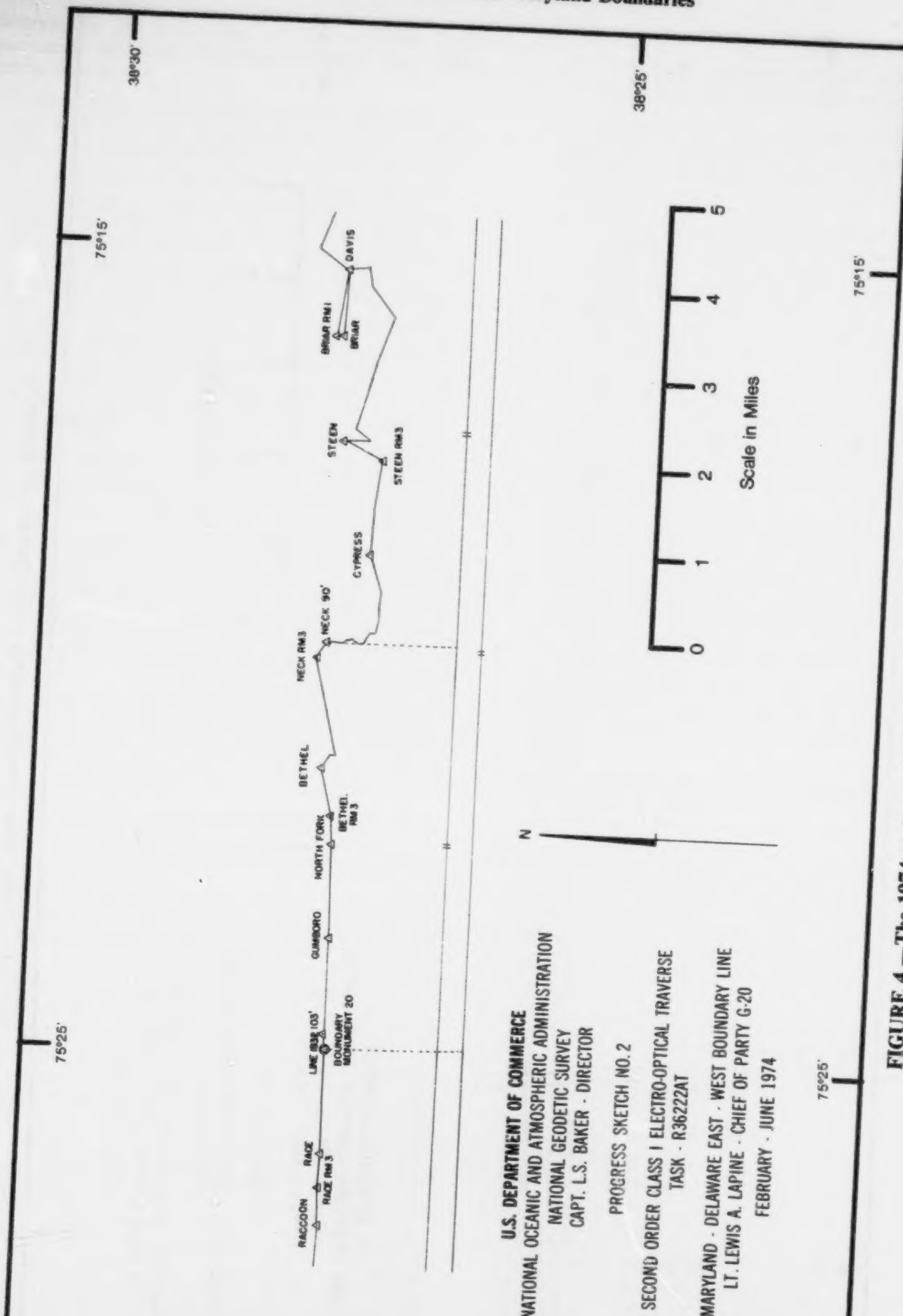

38°30'
38°25'
75°25'
75°15'
38°30'
38°25'
75°25'
75°15'
RACCOON
RACE
RACE RM 3
LINE 1938 103'
BOUNDARY MONUMENT 20
GUMBORO
NORTH FORK
BETHEL RM 3
BETHEL
NECK RM3
NECK 90'
CYPRESS
STEEN RM3
STEEN
BRIAR RM 1
BRIAR
DAVIS
N
0
1
2
3
4
5
Scale in Miles
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY
CAPT. L.S. BAKER · DIRECTOR
PROGRESS SKETCH NO. 2
SECOND ORDER CLASS I ELECTRO-OPTICAL TRAVERSE
TASK · R36222AT
MARYLAND · DELAWARE EAST · WEST BOUNDARY LINE
LT. LEWIS A. LAPINE · CHIEF OF PARTY G-20
FEBRUARY · JUNE 1974

FIGURE 4.—The 1974 east-west boundary survey depiction of section 2.

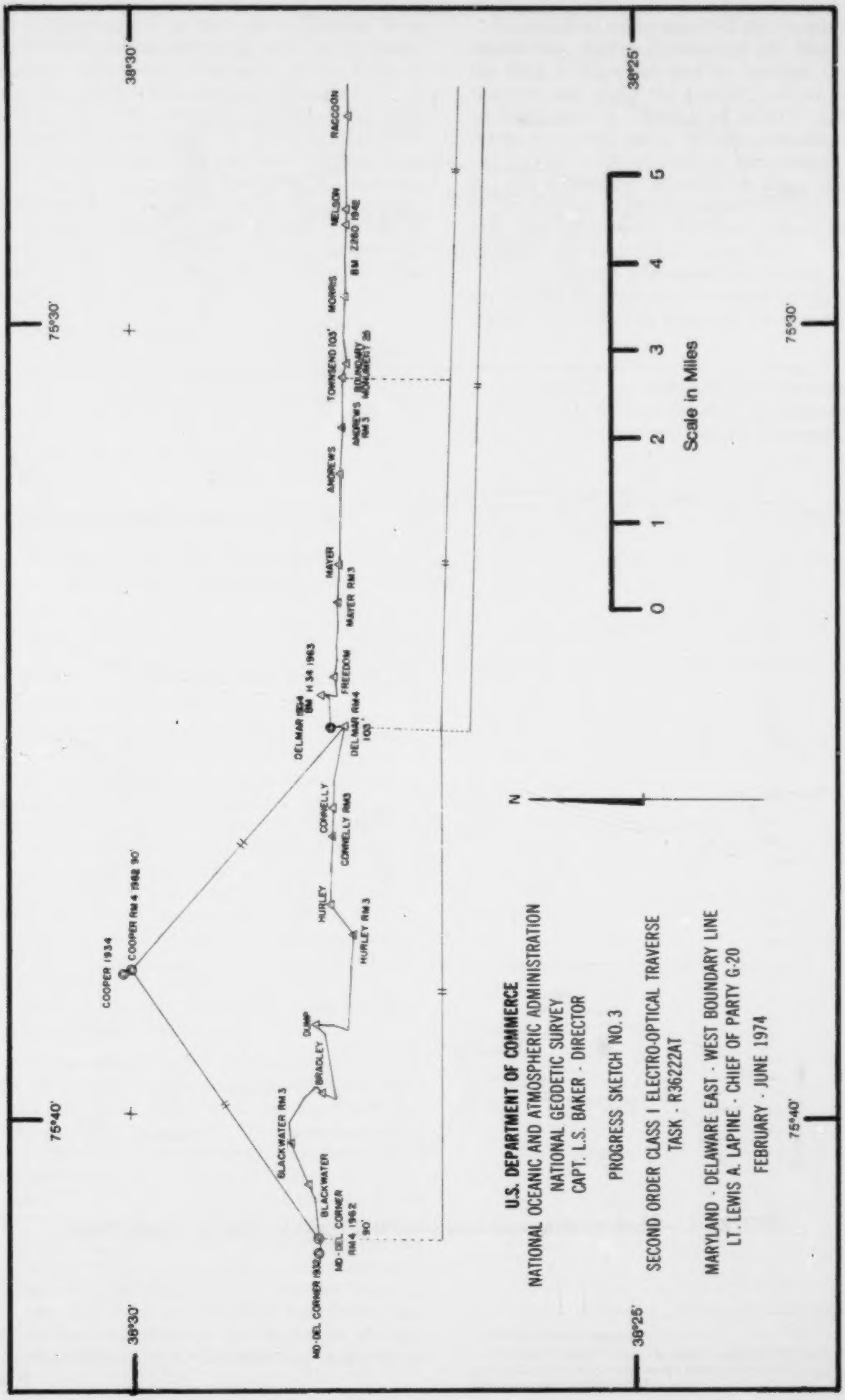

38°30'
75°30'
75°40'
38°25'
COOPER 1934
COOPER RM 4 1962 90°
MD-DEL CORNER 1932
MD-DEL CORNER RM4 1962 90°
BLACKWATER
BLACKWATER RM 3
BRADLEY
DUMP
HURLEY
HURLEY RM 3
CONNELLY
CONNELLY RM3
DELMAR 1934
DELMAR RM4 100°
BM H 34 1963
FREEDOM
MAYER
MAYER RM3
ANDREWS
ANDREWS RM 3
TOWNSEND 103°
BOUNDARY MONUMENT 25
MORRIS
NELSON
BM Z280 1942
RACCOON
N
0
1
2
3
4
5
Scale in Miles
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY
CAPT. L.S. BAKER - DIRECTOR
PROGRESS SKETCH NO. 3
SECOND ORDER CLASS I ELECTRO-OPTICAL TRAVERSE
TASK - R36222AT
MARYLAND - DELAWARE EAST - WEST BOUNDARY LINE
LT. LEWIS A. LAPINE - CHIEF OF PARTY G-20
FEBRUARY - JUNE 1974

FIGURE 5.—The 1974 east-west boundary survey depiction of section 3.

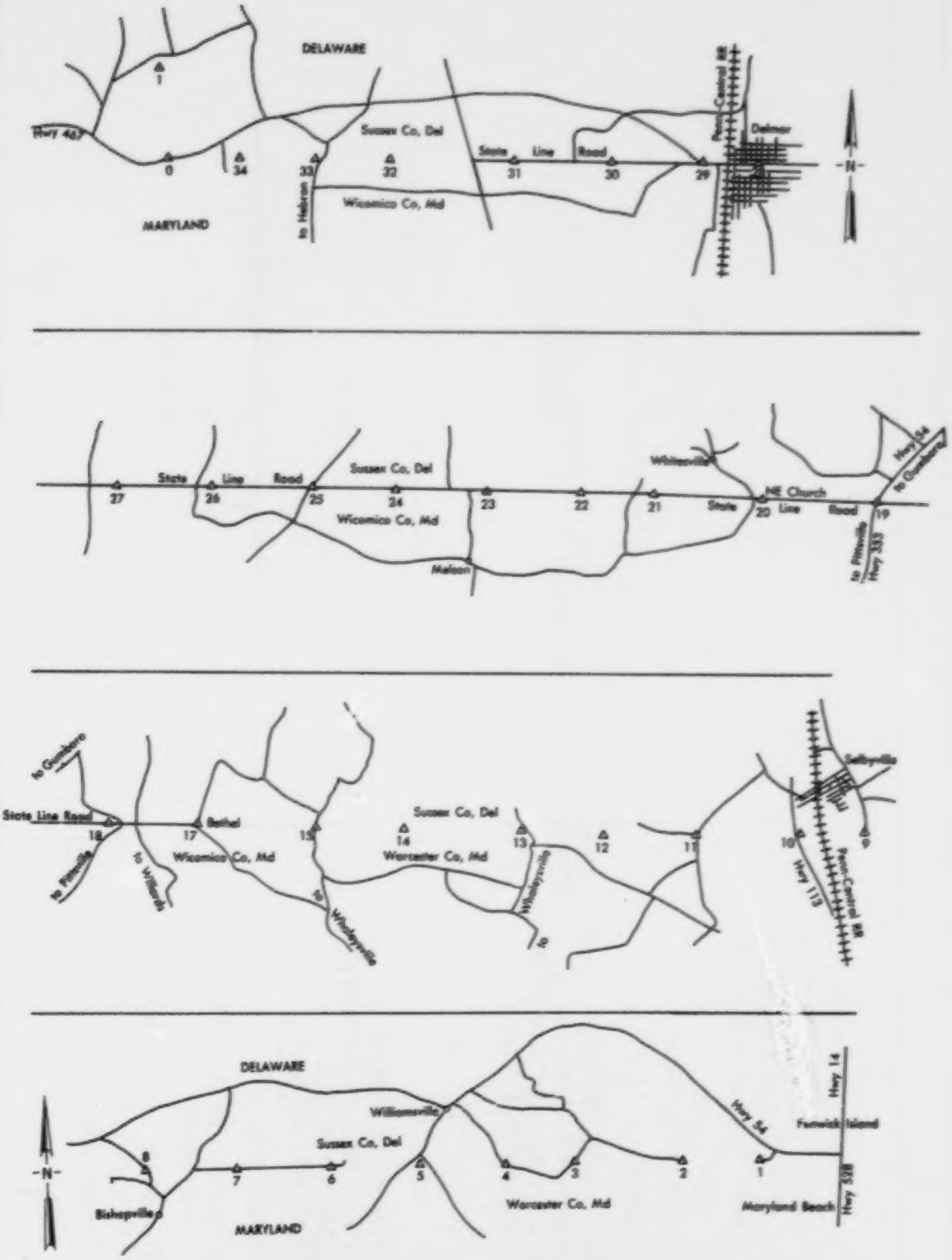

DELAWARE
1
Hwy 467
0
34
33
32
Sussex Co, Del
to Hebron
Wicomico Co, Md
MARYLAND
State Line Road
31
30
29
Penn-Central RR
Delmar
-N-
State Line Road
27
26
25
24
23
22
21
20
19
Sussex Co, Del
Wicomico Co, Md
Melson
Whitesville
ME Church
State Line Road
Hwy 54
to Gumboro
to Pittsville
Hwy 353
to Gumboro
State Line Road
18
to Pittsville
to Willards
17
Bethel
Wicomico Co, Md
15
to Whaleysville
14
Sussex Co, Del
Worcester Co, Md
13
Whaleysville
12
11
10
Hwy 113
Penn-Central RR
Selbyville
9
DELAWARE
-N-
8
Bishopville
7
6
Sussex Co, Del
MARYLAND
Williamsville
5
4
3
2
1
Worcester Co, Md
Hwy 54
Hwy 14
Fenwick Island
Maryland Beach
Hwy 528

FIGURE 6.—Markers along east-west boundary, Fenwick Island to Middle Point.

On figure 6, Monument 0 to the west of Number 34 is MIDDLE POINT and the beginning point for the north-south boundary. Monument Number 1, to the north of Monument 0, is also on the north-south boundary.

As stated in the 1760 boundary agreement, the 1751 colonial survey distance from the ocean to MIDDLE POINT is 34 miles and 309 perches (5,098 ft), or 34.96553 miles. When using a unit of 5,292 feet per mile, as determined from resurveys of the old boundaries, the colonial distance is then 185,038 ft. The distance as determined from the 1974 resurvey is only 189 feet greater than the 1751 measurement. The 1974 value was obtained as follows:

Ocean to Monument 0* = 2,293 ft
(139 perches as given in 1760 agreement)
Monument 0* to Monument 35 = 182,934 ft
(inverse computation from positions)
Total = 185,227 ft

* Monument 0 at Fenwick Island.

Recommendations by NGS for Marking the Boundary at 1-Mile Intervals

After final adjusted results of the 1974 survey were reviewed, the National Geodetic Survey submitted recommendations to the boundary commissioners of Delaware and Maryland as follows:

> *Unless there is some evidence that the boundary monuments have been moved from their original locations, they should be accepted as defining the boundary. If it is agreeable with officials of the States of Delaware and Maryland, the National Geodetic Survey will compute offset distances, from each station established near the boundary, to points which will mark the boundary at one-mile intervals. These computations will be based on the following lines between existing monuments which define the boundary, 0 to 5, 5 to 10, 10 to 20, 20 to 25(Pin), and 25(Pin) to 35.*

(See page 15, Markers Established Along Boundary Between Original Monuments 25 and 35.)

In accordance with these recommendations, commissioners of the two States requested that the offset distances be computed. These distances along with angles (clockwise from an azimuth reference) were then computed at 29 stations, and the results were furnished to the commissioners of each State on March 27, 1975. Then on May 7, 1975, commissioners of the two States met in Dover, Delaware, and agreed on final action to be taken in marking the east-west boundary at intervals of approximately 1 mile. As a result of this meeting, a memorandum of understanding between the State of Delaware and the State of Maryland was drawn and signed by the commissioners of the two States. A copy of this memorandum of understanding is given as appendix B.

As stated in paragraph 4 of the memorandum of understanding, parties representing the State of Delaware, the State of Maryland, and the National Geodetic Survey selected sites along the boundary where markers could be established at intervals of about 1 mile. Temporary marks were then set at the sites selected, measurements were made to the traverse or triangulation stations nearby, and descriptive information was prepared for each of the 29 sites to be permanently marked on the boundary. This information was then submitted to the commissioners of each State for approval.

The boundary sites as selected were approved, and the setting of permanent markers on the boundary was started in 1976. This phase of the operations was com-

TABLE 1.—Azimuths to verify setting new markers on the east-west boundary between the original monuments

Monument Number		Azimuth (from south)		
From	To			
0[1]	5[1]	89°	57′	45.2″
	1	89	57	45.3
	2	89	57	45.5
	3	89	57	45.2
	4	89	57	45.1
5[1]	10[1]	90	03	57.7
	6	90	03	58.2
	7	90	03	57.9
	8	90	03	57.7
	9	90	03	57.9
10[1]	20[1]	90	34	34.4
	11	90	34	34.0
	12	90	34	34.1
	13	90	34	35.7
	14	90	34	34.4
	15	90	34	34.6
	17	90	34	34.0
	18	90	34	34.2
	19	90	34	34.4
20[1]	25[1]	91	24	13.6
	21	91	24	14.0
	22	91	24	14.2
	23	91	24	13.4
	24	91	24	13.9
25[1]	30	91	58	48.5
	26	91	58	48.8
	27	91	58	49.1
	28	91	58	48.9
	29	91	58	49.0
30	35[1,2]	92	39	37.2
	31	92	39	38.8
	32	92	39	38.0
	33	92	39	37.6
	34	92	39	37.2

---

[1] Original boundary monument.

[2] Monument Number 35 is at the western terminal of the east-west boundary, and this is the starting point for the north-south boundary. For position and description, see MD DEL CORNER BDRY MONUMENT 0.

TABLE 2.—Azimuth and distance between monuments along the east-west boundary

Monument Number		Azimuth (from south)			Distance (meters)
From	To				
0	1	89°	57′	45.3″	1295.337
1	2	89	57	12.4	1406.713
2	3	89	56	35.5	1913.633
3	4	89	55	46.5	1226.377
4	5	89	55	15.9	1541.832
5	6	90	03	58.2	1594.693
6	7	90	03	16.7	1681.150
7	8	90	02	33.3	1610.577
8	9	90	01	53.0	2005.746
9	10	90	01	00.1	1188.309
10	11	90	34	34.0	1825.092
11	12	90	33	47.6	1199.080
12	13	90	33	20.7	1949.863
13	14	90	32	23.8	2084.105
14	15	90	31	34.4	1615.424
15	17	90	30	48.9	2104.300
17	18	90	29	59.5	1600.581
18	19	90	29	18.0	1723.117
19	20	90	28	33.2	2031.087
20	21	91	24	14.0	1947.375
21	22	91	23	24.6	1321.472
22	23	91	22	48.1	1735.496
23	24	91	22	07.0	1619.735
24	25	91	21	22.4	1450.001
25	26	91	58	48.8	1847.213
26	27	91	58	02.0	1687.264
27	28	91	57	17.9	1920.680
28	29	91	56	29.7	1022.343
29	30	91	56	00.5	1598.605
30	31	92	39	38.8	1799.304
31	32	92	38	51.2	2236.175
32	33	92	37	53.1	1282.752
33	34	92	37	19.2	1395.170
34	35	92	36	45.3	1307.284

pleted in the early part of 1977, and final measurements between the boundary markers and the nearby traverse and/or triangulation stations were used to compute positions of the boundary stations.

Azimuths given in table 1, computed from the final positions published by the National Geodetic Survey, verify the alignment of new markers established along the boundary between the original monuments. Azimuths and distances between consecutive monuments along the total length of the boundary are given in table 2. The traverse and/or triangulation stations from which the boundary markers were established are given in table 3.

Horizontal control data and descriptions for each station along the boundary appear on pages 16 to 87. Data for the boundary monuments are arranged in numerical order by monument number, and the traverse or triangulation stations are arranged in alphabetical order.

TABLE 3.—Boundary Monuments and traverse or triangulation stations from which the Monuments were established

Monument Number	Date set	Traverse or triangulation station
0	1751	FENWICK ISLAND 1932 (RM 2, 1932 was set in top of boundary monument.)
1	1976	DIVISION 1974
2	1976	CEDAR 1974
3	1976	GREYERS 1974
4	1976	HUDSON 1974
5	1751	HALL 1974
6	1976	DICK 1974
7	1976	BISHOPVILLE 1974
8	1976	SLAB 1974
9	1976	CABE 1974
10	1751	NORMAN 1932 (Triangulation station disc, stamped NORMAN, was set in top of boundary monument in 1932.)
11	1976	DAVIS 1974
12	1976	BRIAR 1974
13	1976	STEEN 1974
14	1977	CYPRESS 1974 (Boundary monument disk is stamped 1976.)
15	1976	NECK 1974
17	1976	BETHEL 1974
18	1976	NORTH FORK 1974
19	1976	GUMBORO 1974
20	1751	LINE 1932
21	1976	RACE 1974
22	1976	RACCOON 1974
23	1976	MELSON 1974
24	1976	MORRIS 1974
25	1950	TOWNSEND 1974 (This boundary marker is a pin set under a manhole cover during highway construction in 1950. The pin was set in the original location of boundary stone 25. The stone was reset 13.8 ft to the south.)
25 OFFSET	1950	TOWNSEND 1974 (Boundary stone set in 1751 was moved 13.8 ft to the south in 1950. See Mon. No. 25.)
26	1981	ANDREWS 1974
27	1981	MAYER 1974
28	1981	FREEDOM 1974
29	1981	DELMAR RM 4 1974
30	1981	CONNELLY 1974 and CONNELLY 2, 1981
31	1981	HURLEY 1974
32	1981	DUMP 1974
33	1981	BRADLEY 1974
34	1981	BLACKWATER 1974
35[1]	1768	MD DEL CORNER RM 4 1962 (Triangulation station disk MD DEL CORNER 1932 is set in top of boundary monument. This monument was set by Mason and Dixon in 1768. Another stone, 32 in. to the North, was set by Colonial surveyors in 1760.)

---

[1] This monument, also identified as MIDDLE POINT, is the starting point for the north-south boundary between Delaware and Maryland. In the published horizonal data this monument is identified as MD DEL CORNER BDRY MONUMENT 0.

Markers Established Along Boundary Between Original Monuments 25 and 35

After markers were established at intervals of about 1 mile between Boundary Monuments 25 and 35 in the 1976 survey, it was discovered that this line was north of the original historical boundary laid out in 1751. This was due to the fact that Boundary Monument 30 had been destroyed and the new markers were placed on line between the original monuments 25 and 35, thereby disregarding the curvature of the historic line indicated by Boundary Monument 30.

An investigation was then made to locate the original site of Boundary Monument 30. In this investigation, a report was found which gave descriptions of all existing boundary monuments along the Transpeninsular Line. This report by James A. Kelley (1973), which was published in The Archeolog, a publication of the Sussex Society of Archeology and History, Volume XXV, gives the following description of Boundary Monument 30:

> *This stone stood for 212 years on the Line Road, about 2.4 miles west of dual U.S. 13. Sometime in early 1972 it disappeared overnight. When last seen by the author, it was in poor condition. Had been placed by the Commissioners in 1760. Was a native crownstone.*

From the descriptive information of traverse stations established along the boundary in 1974, it was found that station CONNELLY was located at a distance of 2.45 miles west of U.S. Highway 13. Therefore, a preliminary location of Monument 30 was placed at a distance of 12 ft north of station CONNELLY and at a distance of 9 ft south of the centerline of the road. Because Boundary Monument 25 was found to be 9 ft south of the centerline of State Line Road, Monument 30 was placed at the same distance south of the centerline.

At the request of the Director, Maryland Geological Survey, the Maryland Department of Natural Resources made a further investigation to locate the original site of Monument 30. Information provided from this investigation strongly supported the location which had been selected for Monument 30. In addition, a sketch of the reconnaissance survey performed by the Coast and Geodetic Survey in 1956 showed a connection to a boundary stone from CONNELLY, a station site selected in the survey. Station CONNELLY, established in the 1974 survey, was set in the same general area as the site selected in the 1956 reconnaissance survey.

Similar investigations of historical records and road surveys were conducted by the Delaware State Boundary Commission and its associates. In addition, theoretical positions of the Transpeninsular Line were generated by computer-based studies at the Delaware Geological Survey. Although no specific, conclusive information about the location of missing Boundary Monument 30 was discovered, all available circumstantial evidence reinforced the decision to select the position indicated here.

A theoretical position was computed for Monument 30 from the established position of station CONNELLY, and theoretical positions were then computed at intervals of approximately 1 mile and on line between Boundary Monument 25 and Monument 30 and between Monuments 30 and 35. These theoretical positions were then used to compute azimuths and distances to the nearby traverse stations that were positioned in the 1974 survey.

In August 1980 a survey was performed to establish temporary points, based on the theoretical computed data, at boundary sites 26 through 34. The nine temporary points were marked with nails and/or spikes; then officials of the two States were requested to approve the temporary sites before setting the boundary monuments. At the time of this survey in 1980, a resident of the area living 0.5 mile west of the site selected for Monument 30 stated:

> *A stone monument on the south side of the road, about one-half mile down the road, disappeared 8 or 10 years ago.*

This statement agrees with the description of Monument Number 30 given in the Archeolog and further confirms the site selected for Monument 30.

In the early part of 1981 officials of Delaware and Maryland gave their approval for establishing boundary monuments at the temporary sites that were marked in 1980. The final survey was delayed for a few months, and in August 1981 the nine boundary monuments from 26 through 34 were established and positioned. This survey was performed by the National Geodetic Survey with assistance provided by the States.

During the 1981 survey the brass discs were removed from markers 26 through 34 that were placed in 1976 and were replaced with new discs stamped E - W No. 26, etc. Distances and azimuths from the boundary monuments established in 1981, to the 1976 markers, are given in the descriptions of the 1981 boundary monuments. The earlier markers may serve as reference markers for the true boundary monuments.

Seaward Extension of the East-West Boundary

With reference to paragraph 7 in the memorandum of understanding between the State of Delaware and the State of Maryland (appendix B), a plan or method for the seaward extension of the east-west boundary had not been decided when this report was submitted for publication in 1982. Negotiations on the seaward extensions of boundaries were complicated by the passage of the Coastal Zone Management Act Amendments of 1976 and their associated regulations that require the establishment of administrative boundaries on the continental shelves.

Horizontal Control Data
for East-West Boundary
pages 16 to 87

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: FENWICK RM 2 (Initial Md-Del Bdry Mon)
ESTABLISHED BY: YEAR:* 1932 STATE: Md-Del Line BENCH MARK ALSO ☐
RECOVERED BY:* Lewis A. Lapine YEAR: 1974 COUNTY: Worcester or Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: In Fenwick Island.
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	° ′ ″
FENWICK ISLAND RM 5 (Electronic Distance)	E	(198.59)	60.530	

The monument is located at Fenwick Island, near the Fenwick Island, Lighthouse.

To reach the monument from the junction of State Road 14 and 54 in Fenwick Island, go south on State Road 14 for 0.05 mile to the State Line and a side road right. Turn right and go west on a sand road for 0.1 mile to the monument on the right.

The mark, a 6 by 12 inch granite monument with a U.S.C.& G.S. reference mark disk cemented in the top, stamped FENWICK ISLAND NO 2 1932. The monument is projecting 36 inches above the ground surface.

For additional information see description for FENWICK ISLAND RM 5.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: INITIAL MD DEL BDRY MON FENWICK RM 2 *
STATE: DELAWARE - MARYLAND YEAR 1932 SECOND ORDER

* BDRY MON 0 (East-West Boundary)

SOURCE: G-1895
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 04.08200	ELEVATION:	4.23 METERS
GEODETIC LONGITUDE:	75 03 19.18500		13.9 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE* ° ′ ″
DE	0700	603,485.49	164,490.30	+ 0 13 29
MD	1900	1,356,892.38	230,919.41	+ 1 13 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF JUN 1976

POSITION DETERMINED BY TRAVERSE FROM STATION FENWICK IS

LEVELING BY CGS

MAY 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY • NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 1
STATE: Maryland Delaware
COUNTY: Worcester Sussex
NEAREST TOWN: Ocean City
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT		BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

The position of this monument was found to be in an east-west road. The monument was placed below a 24-inch round manhole in the road.

It is located 3 miles north of Ocean City, 3/4 mile west of Fenwick Island, and just east of a waterway. It is on road right-of-way.

To reach from the intersection of Delaware State Highways 54 and 14 in Fenwick Island, go west on State Highway 54 for 0.75 mile to a side road left. Turn left and go south on Jefferson Avenue for 0.1 mile to Hayes Avenue. Turn right, go west on Hayes Avenue for 0.15 mile to the manhole and the monument under the road.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 1 1976, set in the top of a 12-inch monument which is 20-inches below the top of the manhole. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 1 1976, set in an 8-inch mass of concrete which is 48 inches below the surface of the road. They are 49 feet south of the southwest corner of porch of first house to the north, 22 feet north of a witness post, 21 feet south-southeast of a powerline pole numbered 15, and 1 foot south of the center of the road.

For additional information, see description for station DIVISION 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 1

STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	ELEVATION: METERS FEET
GEODETIC LATITUDE:	38	27	04.05125	NO CHECK
GEODETIC LONGITUDE:	75	04	12.60460	

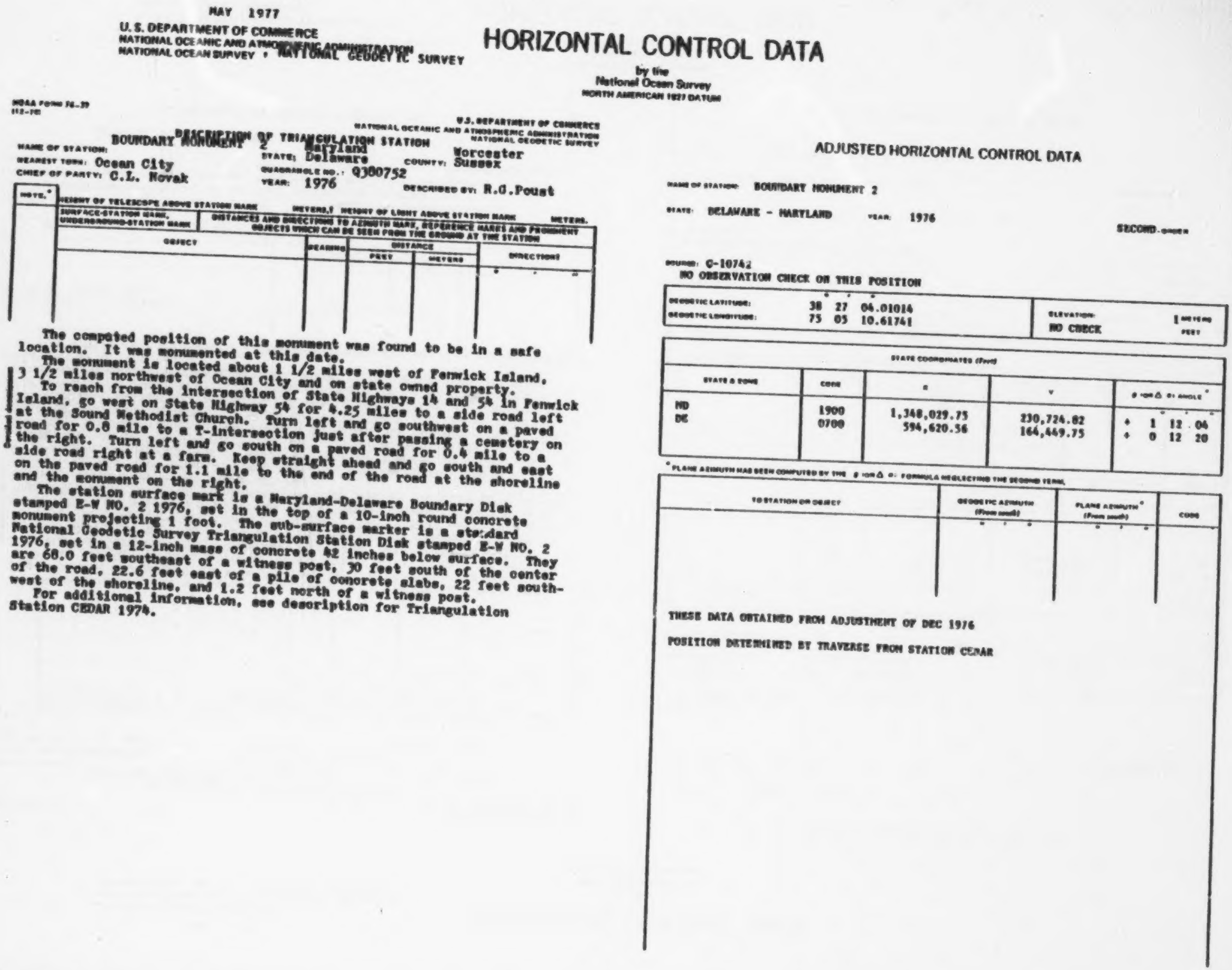
STATE & ZONE	CODE	STATE COORDINATES (Feet) X	STATE COORDINATES (Feet) Y	θ OR Δ α ANGLE*
MD	1900	1,352,643.73	230,826.13	+ 1 12 40
DE	0700	599,235.73	164,470.87	+ 0 12 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION DIVISION



MAY 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY • NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-76)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 2
STATE: Maryland Delaware
COUNTY: Worcester Sussex
NEAREST TOWN: Ocean City
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G.Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

The computed position of this monument was found to be in a safe location. It was monumented at this date.

The monument is located about 1 1/2 miles west of Fenwick Island, 3 1/2 miles northwest of Ocean City and on state owned property.

To reach from the intersection of State Highways 14 and 54 in Fenwick Island, go west on State Highway 54 for 4.25 miles to a side road left at the Sound Methodist Church. Turn left and go southwest on a paved road for 0.8 mile to a T-intersection just after passing a cemetery on the right. Turn left and go south on a paved road for 0.4 mile to a side road right at a farm. Keep straight ahead and go south and east on the paved road for 1.1 mile to the end of the road at the shoreline and the monument on the right.

The station surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 2 1976, set in the top of a 10-inch round concrete monument projecting 1 foot. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 2 1976, set in a 12-inch mass of concrete 42 inches below surface. They are 68.0 feet southeast of a witness post, 30 feet south of the center of the road, 22.6 feet east of a pile of concrete slabs, 22 feet southwest of the shoreline, and 1.2 feet north of a witness post.

For additional information, see description for Triangulation Station CEDAR 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 2
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: C-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION:
GEODETIC LATITUDE:	38 27 04.01014	NO CHECK METERS FEET
GEODETIC LONGITUDE:	75 05 10.61741	

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE* ° ′ ″
MD	1900	1,348,029.75	230,724.82	+ 1 12 04
DE	0700	594,620.56	164,449.75	+ 0 12 20

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION CEDAR

MAY 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY • NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 3
STATE: Maryland Delaware
COUNTY: Worcester Sussex
NEAREST TOWN: Williamsville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.					
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTION†	
			FEET	METERS	° ′ ″	

The computed position of this monument was found to be in a cultivated field. A new point was selected to the west and out of any danger from farm operations.

It is located about 2 3/4 miles west of Fenwick Island, 1 1/2 miles south of Williamsville, and on road right-of-way.

To reach from the intersection of State Highways 14 and 54 in Fenwick Island, go west on State Highway 54 for 4.25 miles to a side road left at the Sound Methodist Church. Turn left and go southwest on a paved road for 0.8 mile to a T-intersection just after passing a cemetery on the right. Turn left and go south on a paved road for 0.4 mile to a side road right at a farm on the right. Turn right and go west on a paved road for 0.3 mile to the monument on the left.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 3 1976, set in the top of a 10-inch round concrete monument projecting 8-inches. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 3 1976, set in a 12-inch mass of concrete 42-inches below the surface. They are 145 feet southwest of a gap in a northeast-southwest fence line, 24 feet southeast of the center of the road, 2 feet northwest of the fence, and 1.3 feet northwest of a witness post.

For additional information, see the description for Triangulation Station GREYERS 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 3
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: C-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION:	
GEODETIC LATITUDE:	38 27 03.94115	NO CHECK	2 METERS
GEODETIC LONGITUDE:	75 06 29.53563		FEET

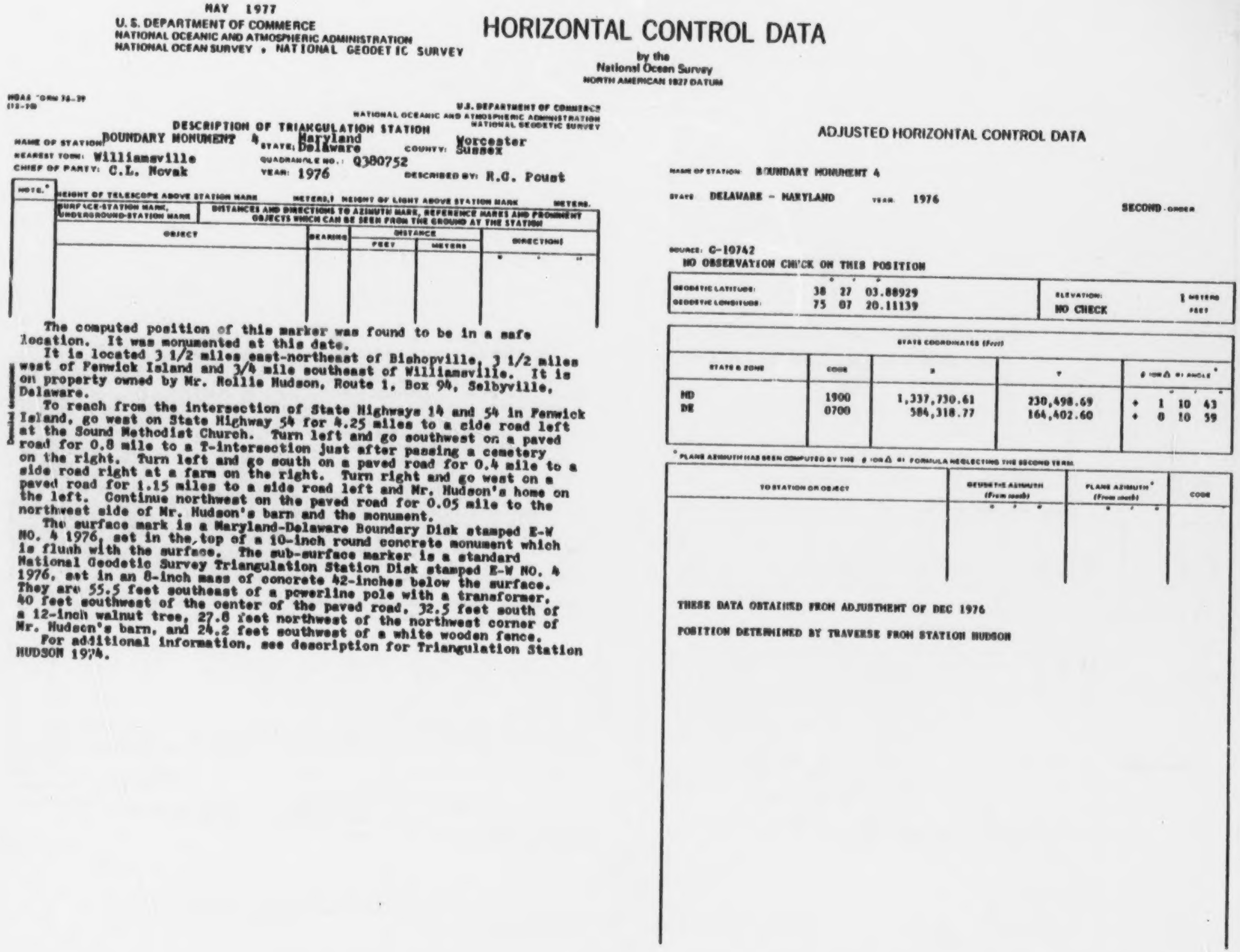
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
MD	1900	1,341,753.10	230,587.00	+ 1 11 15
DE	0700	588,342.28	164,421.01	+ 0 11 31

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION GREYERS



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY • NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 4
STATE: Maryland Delaware
COUNTY: Worcester Sussex
NEAREST TOWN: Williamsville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS,† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT		BEARING	DISTANCE		DIRECTIONS
				FEET	METERS	° ′ ″

The computed position of this marker was found to be in a safe location. It was monumented at this date.

It is located 3 1/2 miles east-northeast of Bishopville, 3 1/2 miles west of Fenwick Island and 3/4 mile southeast of Williamsville. It is on property owned by Mr. Rollie Hudson, Route 1, Box 94, Selbyville, Delaware.

To reach from the intersection of State Highways 14 and 54 in Fenwick Island, go west on State Highway 54 for 4.25 miles to a side road left at the Sound Methodist Church. Turn left and go southwest on a paved road for 0.8 mile to a T-intersection just after passing a cemetery on the right. Turn left and go south on a paved road for 0.4 mile to a side road right at a farm on the right. Turn right and go west on a paved road for 1.15 miles to a side road left and Mr. Hudson's home on the left. Continue northwest on the paved road for 0.05 mile to the northwest side of Mr. Hudson's barn and the monument.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 4 1976, set in the top of a 10-inch round concrete monument which is flush with the surface. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 4 1976, set in an 8-inch mass of concrete 42-inches below the surface. They are 55.5 feet southeast of a powerline pole with a transformer, 40 feet southwest of the center of the paved road, 32.5 feet south of a 12-inch walnut tree, 27.8 feet northwest of the northwest corner of Mr. Hudson's barn, and 24.2 feet southwest of a white wooden fence.

For additional information, see description for Triangulation Station HUDSON 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 4
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND-ORDER

SOURCE: C-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE:	38	27	03.88929	ELEVATION:	METERS
GEODETIC LONGITUDE:	75	07	20.11139	NO CHECK	FEET

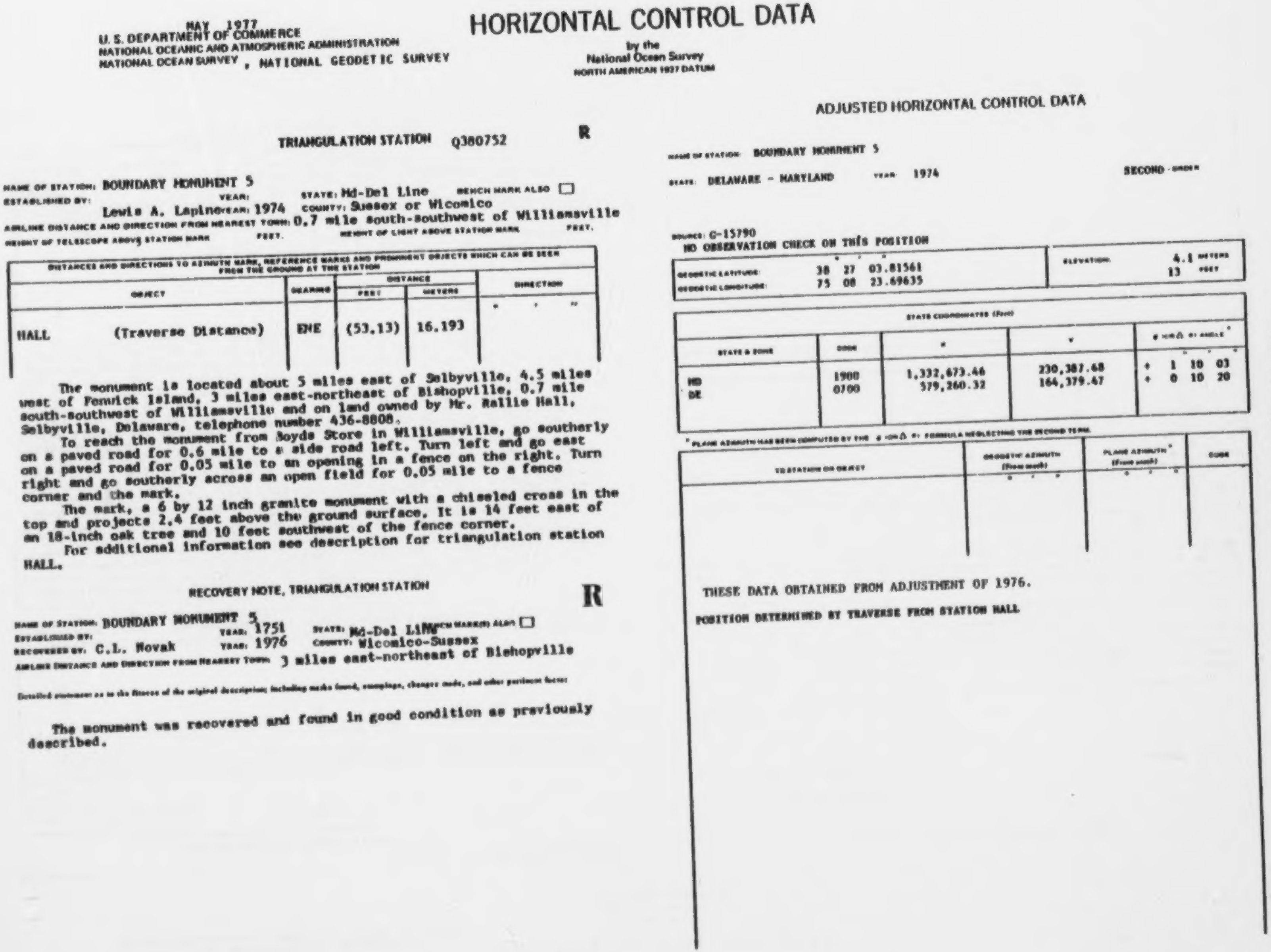
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,337,730.61	230,498.69	+ 1 10 43
DE	0700	584,318.77	164,402.60	+ 0 10 59

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION HUDSON



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

TRIANGULATION STATION Q380752 R

NAME OF STATION: BOUNDARY MONUMENT 5
STATE: Md-Del Line BENCH MARK ALSO ☐
ESTABLISHED BY: Lewis A. Lapino YEAR: 1974 COUNTY: Sussex or Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 0.7 mile south-southwest of Williamsville
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
HALL (Traverse Distance)	ENE	(53.13)	16.193	

The monument is located about 5 miles east of Selbyville, 4.5 miles west of Fenwick Island, 3 miles east-northeast of Bishopville, 0.7 mile south-southwest of Williamsville and on land owned by Mr. Rallie Hall, Selbyville, Delaware, telephone number 436-8808.

To reach the monument from Boyds Store in Williamsville, go southerly on a paved road for 0.6 mile to a side road left. Turn left and go east on a paved road for 0.05 mile to an opening in a fence on the right. Turn right and go southerly across an open field for 0.05 mile to a fence corner and the mark.

The mark, a 6 by 12 inch granite monument with a chiseled cross in the top and projects 2.4 feet above the ground surface. It is 14 feet east of an 18-inch oak tree and 10 feet southwest of the fence corner.

For additional information see description for triangulation station HALL.

RECOVERY NOTE, TRIANGULATION STATION R

NAME OF STATION: BOUNDARY MONUMENT 5 STATE: Md-Del Line BENCH MARK(S) ALSO ☐
ESTABLISHED BY: YEAR: 1751
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles east-northeast of Bishopville

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The monument was recovered and found in good condition as previously described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 5
STATE: DELAWARE - MARYLAND YEAR: 1974 SECOND - ORDER

SOURCE: G-15790
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE:	38 27 03.81561	ELEVATION:	4.1 METERS
GEODETIC LONGITUDE:	75 08 23.69635		13 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ ANGLE* ° ' "
MD	1900	1,332,673.46	230,387.68	+ 1 10 03
DE	0700	579,260.32	164,379.47	+ 0 10 20

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

POSITION DETERMINED BY TRAVERSE FROM STATION HALL

MAY 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 6
STATE: Delaware
Maryland
COUNTY: Sussex
Worcester
NEAREST TOWN: Bishopville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTIONS
		FEET	METERS	° ′ ″

The position of this monument was found to be in the eastbound lane of State Line Road. The monument was placed under a manhole at this date.

It is located about 2 1/2 miles southeast of Selbyville, 1 1/2 miles northeast of Bishopville, and on road right-of-way.

To reach from the post office in Bishopville, go northeast on a paved road for 0.75 mile to a side road right. Turn right and go east on State Line Road for 0.9 mile to the azimuth mark on the left. Continue east on State Line Road for 0.5 mile to the manhole and the marker.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 6 1976 set in the top of a 12-inch concrete monument which is 20-inches below the top of the 24-inch manhole. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 6 1976, set in an 8-inch mass of concrete which is 48 inches below the surface. They are 19.3 feet north of a witness post, 16 feet north of a powerline pole numbered 12, and 3 feet south of the center of State Line Road.

For additional information, see description for station DICK 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 6

STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	
GEODETIC LATITUDE:	38	27	03.87018	ELEVATION: METERS
GEODETIC LONGITUDE:	75	09	29.46139	NO CHECK FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
MD	1900	1,327,442.63	230,287.13	+ 1 09 22
DE	0700	574,028.40	154,369.79	+ 0 09 39

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION DICK

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(11-74)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 7
STATE: Delaware Maryland
COUNTY: Sussex Worcester
NEAREST TOWN: Bishopville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The computed position of this monument was found to be on the edge of
state line road. There was no way to move it east or west on line.
Maryland and Delaware requested that the monument be set on the right-
of-way where the computed position falls.
The monument is located about 2 1/2 miles east-southeast of Selbyville,
1 mile east-southeast of Bishopville and on road right-of-way.
To reach from the post office in Bishopville, go northeast on a paved
road for 0.75 mile to a side road right. Turn right and go east on
state line road for 0.4 mile to the marker on the right.
The surface mark is a Maryland-Delaware Boundary Disk stamped E-W
NO. 7 1976, set in the top of a 20-inch round concrete monument which is
flush with the edge of the road. The sub-surface marker is a National
Geodetic Survey Triangulation Station Disk stamped E-W NO. 7 1976, set
in a 20-inch mass of concrete 40-inches below the surface. They are
66.4 feet southeast of a witness post, 22 feet north of the timber area,
11.5 feet south of the center of state line road, 8.6 feet north-north-
east of a powerline pole numbered 10, 3.4 feet north of a witness post,
and 1 foot south of the south edge of the road.
For additional information, see description for Triangulation
Station BISHOPVILLE 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 7
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	
GEODETIC LATITUDE:	38 27 03.91651	ELEVATION: NO CHECK 6 METERS FEET
GEODETIC LONGITUDE:	75 10 38.79206	

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ OR Δα OR ANGLE* ° ′ ″
MD	1900	1,321,928.19	230,181.13	+ 1 08 38
DE	0700	568,512.82	164,359.58	+ 0 08 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION BISHOPVILLE

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-59
(1-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 8 STATE: Maryland Delaware COUNTY: Worcester Sussex
NEAREST TOWN: Selbyville QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The computed position of this monument was found to be in a cultivated field. It was relocated 19.07 feet to the east and out of the cultivated field.

The monument is located 2 miles east of Selbyville, 8 miles west of Fenwick Island and in the north edge of Bishopville. It is on road right-of-way.

To reach from the post office in Bishopville, go northeast on a paved road for 0.4 mile to a side road left. Turn left and go southwest on a paved road for 0.4 mile to the monument on the left.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 8 1976, set in the top of a 10-inch round concrete monument which is flush with the surface. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 8 1976, set in an 8-inch mass of concrete 42-inches below the surface. They are 100 yards northwest of most northwest house in Bishopville. 93 feet southeast of a powerline pole numbered 19T66, 66.5 feet northwest of a powerline pole numbered 19T65. 24 feet northwest of a Maryland boundary road sign, and 14 feet south of the center of the road.

For additional information, see description for Triangulation Station SLAB 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 8
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 03.95012	ELEVATION:	8 METERS
GEODETIC LONGITUDE:	75 11 45.21206	NO CHECK	FEET

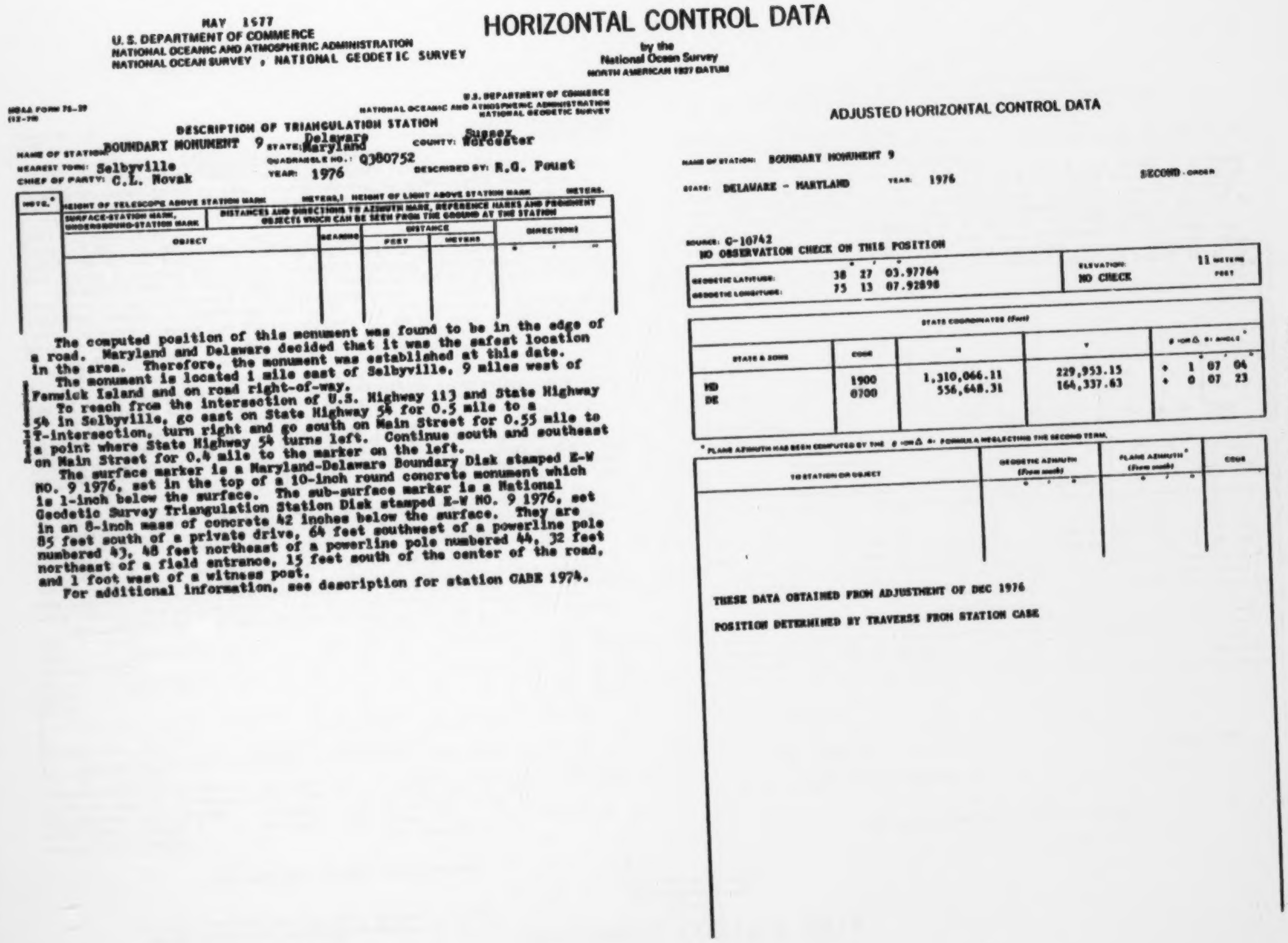
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (or Δα) ANGLE* ° ′ ″
MD	1900	1,316,645.26	230,079.58	+ 1 07 56
DE	0700	563,228.81	164,349.79	+ 0 08 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION SLAB



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA
by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 9 STATE: Delaware Maryland COUNTY: Sussex Worcester
NEAREST TOWN: Selbyville QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Foust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

The computed position of this monument was found to be in the edge of a road. Maryland and Delaware decided that it was the safest location in the area. Therefore, the monument was established at this date.

The monument is located 1 mile east of Selbyville, 9 miles west of Fenwick Island and on road right-of-way.

To reach from the intersection of U.S. Highway 113 and State Highway 54 in Selbyville, go east on State Highway 54 for 0.5 mile to a T-intersection, turn right and go south on Main Street for 0.55 mile to a point where State Highway 54 turns left. Continue south and southeast on Main Street for 0.4 mile to the marker on the left.

The surface marker is a Maryland-Delaware Boundary Disk stamped E-W NO. 9 1976, set in the top of a 10-inch round concrete monument which is 1-inch below the surface. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 9 1976, set in an 8-inch mass of concrete 42 inches below the surface. They are 85 feet south of a private drive, 64 feet southwest of a powerline pole numbered 43, 48 feet northeast of a powerline pole numbered 44, 32 feet northeast of a field entrance, 15 feet south of the center of the road, and 1 foot west of a witness post.

For additional information, see description for station CABE 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 9
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION:	
GEODETIC LATITUDE:	38 27 03.97764	NO CHECK	11 METERS
GEODETIC LONGITUDE:	75 13 07.92898		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
MD	1900	1,310,066.11	229,953.15	+ 1 07 04
DE	0700	556,648.31	164,337.63	+ 0 07 23

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION CABE

JUL 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: NORMAN
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Maryland-Delaware State Line BENCH MARK ALSO ☐
RECOVERED BY: L.A. Lapine YEAR: 1974 COUNTY: Worcester-Sussex Line
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: In the south edge of Selbyville, Del.
HEIGHT OF TELESCOPE ABOVE STATION MARK 102.7 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 111.2 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
HALL				00 00 00.0
RM 6 (Az. Mk.)	S	0.15 mile		97 19 27.6
RM 4 (Tension 5 kgs.)	S	59.79	18.225	98 49 12
Azimuth mark	W	0.35 mile		173 00 39.7
RM 5 (Tension 5 kgs.)	WNW	96.26	29.340	202 09 02
RM 4 to RM 5		124.45	(37.932)	

The station mark, reference mark 4, reference mark 5 and the azimuth mark were recovered and found to be in good condition. Reference mark 3 was searched for and is believed destroyed. Reference mark 6 was established at this time. It is believed reference mark 4 has been moved because a difference of 7.266 meters was found. Due to the change a new description follows.

The station is located in the south edge of Selbyville, Delaware, in the northeast angle of a crossroads at the Maryland-Delaware State Line, on the property of Mr. William Ponza, Selbyville, Delaware, Phone 302-734-9770.

To reach the station from the post office in Selbyville, Delaware, go southwest on Church Street for 0.25 mile to a railroad crossing. Continue southwest on Church Street for 0.35 mile to the junction of US Highway 113. Turn left and go south on US Highway 113 for 0.25 mile to the Maryland-Delaware State Line and the station on the left.

To reach the azimuth mark from the station, go west on a paved road for 0.35 mile to the azimuth mark on the right.

To reach reference mark 6 from the station, go south on US Highway 113 for 0.15 mile to a White frame building on the right and the mark on the right.

The station mark, a standard disk stamped NORMAN 1932, set in a drill hole in the top of a 6 by 12-inch granite boundary line monument that projects 20-inches above the ground surface. It is 123 feet northeast of the northeast corner of a concrete building, 78.5 feet east of a 12-inch maple tree and in the south edge of a cultivated field. (Desc.)

Reference mark 4, a standard disk stamped NORMAN NO 4 1932, is set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 136 feet north of the center of a paved road and 82 feet northeast of the northeast corner of the concrete building. (Note 11b)

Reference mark 5, a standard disk stamped NORMAN NO 5 1932, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 47 feet east-northeast of a powerline pole with a transformer, 28.7 feet northwest of a 12-inch maple tree and 10 feet west of the west edge of a cultivated field. (Note 11b)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NORMAN (BOUNDARY MONUMENT 10)
STATE: DELAWARE - MARYLAND YEAR 1932 FIRST-ORDER

SOURCE: C-1895

	° ′ ″		
GEODETIC LATITUDE:	38 27 03.986	ELEVATION:	11 METERS
GEODETIC LONGITUDE:	75 13 56.935	SCALED	FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
MD	1900	1,306,168.26	229,878.23	+ 1 06 36
DE	0700	552,749.67	164,330.39	+ 0 06 52

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

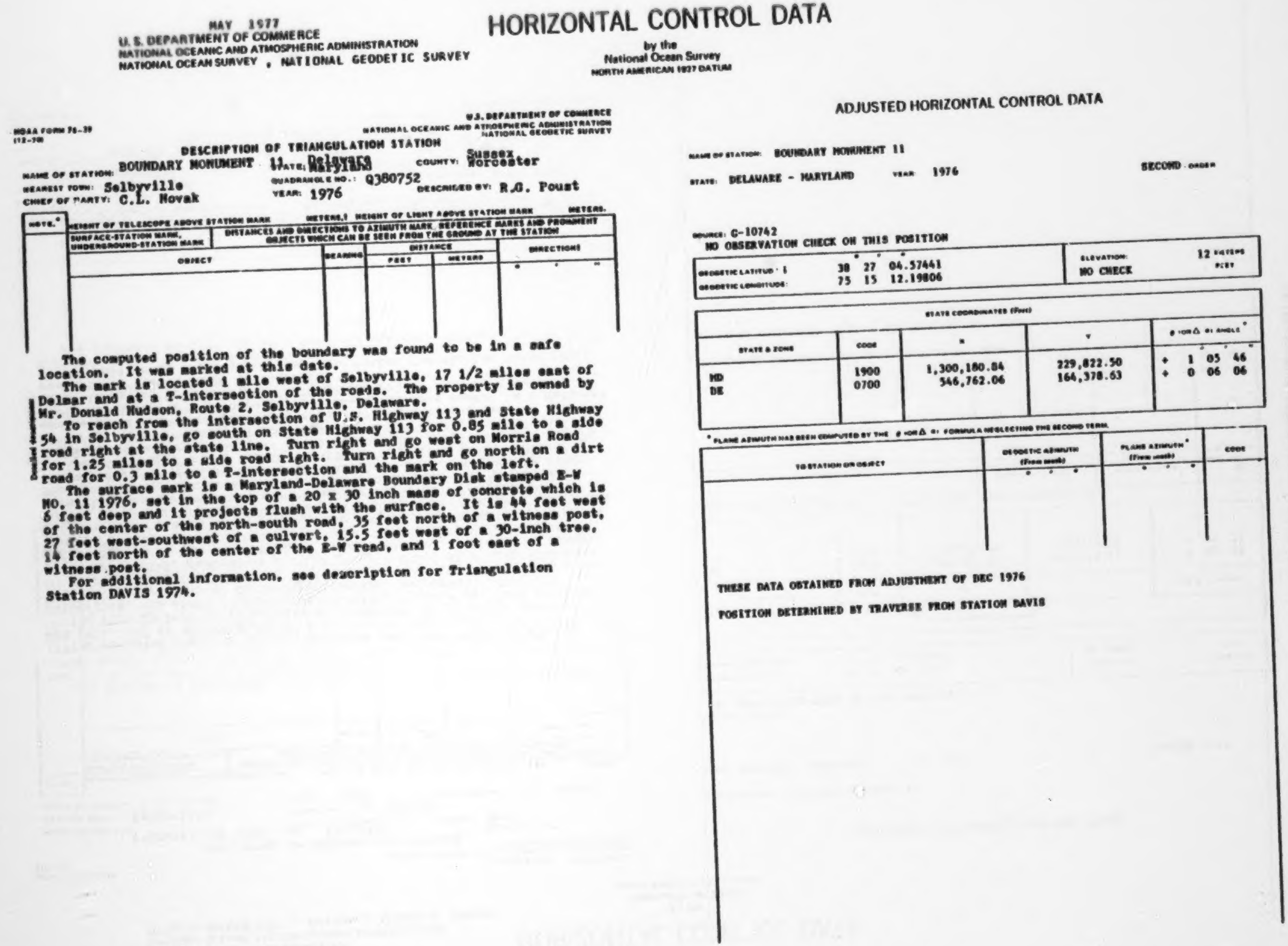
TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	82 55 58.6	81 49 25	1900
AZIMUTH MARK	82 55 58.6	82 49 06	0700

Reference mark 6, a standard disk stamped NORMAN 1932 NO 6 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 51 feet west-southwest of a 40-inch oak tree and 39 feet east-southeast of a 40-inch oak tree. (Note 11b)

Azimuth mark, a standard disk stamped NORMAN 1955, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 48 feet north-northeast of a powerline pole numner 20 G, 16 feet north of the center of a paved road and 4 feet south of a metal witness post with sign. (Note 16 b)

The boundary line monument the station mark is set in the top of is Boundary Line Monument 10.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 11
STATE: Delaware
Maryland
COUNTY: Sussex
Worcester
NEAREST TOWN: Selbyville
QUADRANGLE NO.: Q380752
DESCRIBED BY: R.G. Poust
CHIEF OF PARTY: C.L. Novak
YEAR: 1976

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ' "

The computed position of the boundary was found to be in a safe location. It was marked at this date.

The mark is located 1 mile west of Selbyville, 17 1/2 miles east of Delmar and at a T-intersection of the roads. The property is owned by Mr. Donald Hudson, Route 2, Selbyville, Delaware.

To reach from the intersection of U.S. Highway 113 and State Highway 54 in Selbyville, go south on State Highway 113 for 0.85 mile to a side road right at the state line. Turn right and go west on Morris Road for 1.25 miles to a side road right. Turn right and go north on a dirt road for 0.3 mile to a T-intersection and the mark on the left.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 11 1976, set in the top of a 20 x 30 inch mass of concrete which is 6 feet deep and it projects flush with the surface. It is 44 feet west of the center of the north-south road, 35 feet north of a witness post, 27 feet west-southwest of a culvert, 15.5 feet west of a 30-inch tree, 14 feet north of the center of the E-W road, and 1 foot east of a witness post.

For additional information, see description for Triangulation Station DAVIS 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 11
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "	
GEODETIC LATITUDE: 1	38 27 04.57441	ELEVATION: 12 METERS / FEET
GEODETIC LONGITUDE:	75 15 12.19806	NO CHECK

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ' "
MD	1900	1,300,180.84	229,822.50	+ 1 05 46
DE	0700	546,762.06	164,378.63	+ 0 06 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION DAVIS

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 12

STATE: Maryland Delaware

COUNTY: Worcester Sussex

NEAREST TOWN: Selbyville

QUADRANGLE NO.: Q380752

CHIEF OF PARTY: C.L. Novak

YEAR: 1976

DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.				HEIGHT OF LIGHT ABOVE STATION MARK METERS.
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	
					° ′ ″

The computed position of this monument was found to be in a swamp. It was relocated to the east and in a much safer location.

The mark is located 16 miles east of Delmar, 2 1/2 miles west of Selbyville, and about 2 miles south of State Highway 54. The property is owned by Mr. John R. Davis of Selbyville, Delaware.

To reach from the intersection of U.S. Highway 113 and State Highway 54 in Selbyville, go west on State Highway for 0.2 mile to a side road left. Turn left and go south on a paved road for 0.2 mile to a crossroads. Continue south on the paved road for 0.1 mile to a crossroads just north of a small bridge. Continue straight ahead and go southwest on the paved road crossing the bridge for 0.95 mile to a side road right. Turn right and go west on a dirt road for 0.7 mile to an old house. Bear left and go southwest across a cultivated field for 1/4 mile to the marker. The surface marker is a Maryland-Delaware Boundary Disk stamped E-W NO. 12 1976, set in the top of a 10-inch round concrete monument projecting 8-inches. It is 42 feet south of the south edge of the cultivated field, 21 feet south of a E-W ditch, 8 feet southsouthwest of a 14-inch pine tree with a triangle blaze, and 2.6 feet north-northwest of a witness post. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk set in an 8-inch mass of concrete 42 inches below the surface.

For additional information, see description for station BRIAR 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 12

STATE: DELAWARE - MARYLAND YEAR: 1976

SECOND -ORDER

SOURCE: G-10742
NO OBSERVATION CEHCK ON THIS POSITION

	° ′ ″	ELEVATION:	
GEODETIC LATITUDE:	38 27 04.95382	NO CHECK	12 METERS
GEODETIC LONGITUDE:	75 16 01.64594		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE* ° ′ ″
MD	1900	1,296,247.12	229.785.91	+ 1 05 15
DE	0700	542,828.21	164,410.33	+ 0 05 35

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α: FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION BRIAR

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 13 STATE: Maryland Delaware COUNTY: Worcester Sussex
NEAREST TOWN: Selbyville QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.) HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
OBJECT	BEARING	DISTANCE		DIRECTIONS
		FEET	METERS	° ′ ″

The computed position of this boundary monument was found to be in a drainage ditch. It was relocated about 2.8 feet to the west and out of the ditch.

The marker is located 3 miles west of Selbyville, 15 miles east of Delmar and on property leased by Mr. Clifton Murray, Selbyville, Delaware, telephone number (302) 436-5579.

To reach from the intersection of U.S. Highway 113 and State Highway 54 in Selbyville, go south on U.S Highway 113 for 0.85 mile to a side road right at the state line. Turn right and go west on Morris Road for 1.95 miles to a T-intersection. Turn right and go northwest on a paved road for 1.4 miles to a field road on the right at a point where the main road curves to the west. Turn right and go northeast on the field road for 0.1 mile to a side field road left. Turn left and go northwest on the field road for 0.1 mile to a side field road right. Turn right and go northeast on the field road for 0.05 mile to a T-intersection in the drainage ditch on the right and the marker on the right.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 13 1976, set in the top of a 10-inch round concrete monument projecting 1-inch. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 13 1976, set in an 8-inch mass of concrete 42 inches below the surface. They are 14.1 feet northeast of STEEN RM 1 1974, 11 feet south-southwest of the T-intersection in the ditches, 5 feet east-northeast of the north-south ditch, 2 feet east of the center of the center of the field road, and 1 foot northwest of a witness post.

For additional information, see description for station STEEN 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 13
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 05.55946	ELEVATION:	11 METERS
GEODETIC LONGITUDE:	75 17 22.05500	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,289,850.36	229,726.53	+ 1 04 25
DE	0700	536,431.26	164,461.99	+ 0 04 45

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION STEEN

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-29
(12-74)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 14 STATE: Delaware Maryland COUNTY: Sussex Worcester
NEAREST TOWN: Gumboro QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1977 DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	° ′ ″

The monument is located 4 miles west of Selbyville, 3 miles southeast of Gumboro and in the southern part of the Cypress Wildlife Area.

To reach from the intersection of U.S. Highway 113, and State Highway 54 in Selbyville, go south on U.S. Highway 113 for 0.85 mile to a side road right. Turn right, go west on Morris Road for 1.95 miles to a T-intersection. Turn right, go north and west on a paved road for 1.9 mile to a side road right. Turn right and go north on a dirt road for 1.3 mile to a bridge and where the road curves west. Cross the bridge, turn left and go west on dirt road for 0.1 mile to station CYPRESS on the right and end of truck travel. Pack north through the swamp for 700 meters to marker.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 14 1976, set in the top of a 12-inch round concrete monument which projects 4-inches. There is no way possible to set a sub-surface disk. There was too much water at this time. A magnet was placed in the monument. It is 11.5 feet south-southeast of a 24-inch maple tree and 3.2 feet south of a witness post.

For additional information, see description for triangulation station CYPRESS 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 14

STATE: DELAWARE- MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 06.18771	ELEVATION:	11 METERS
GEODETIC LONGITUDE:	75 18 48.00031	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,283,013.22	229,662.87	+ 1 03 31
DE	0700	529,593.91	164,516.99	+ 0 03 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF FEB 1977

POSITION DETERMINED BY TRAVERSE FROM STATION CYPRESS

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-29
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 15
STATE: Delaware / Maryland
COUNTY: Sussex / Worcester
NEAREST TOWN: Selbyville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.	HEIGHT OF LIGHT ABOVE STATION MARK METERS.			
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ' "

The computed position of this marker was found to be in a north-south road. It was relocated 26.73 feet to the west and out of traveled area of the road.

The mark is located in the north edge of the cypress swamp about 5 miles west of Selbyville, 1 1/2 miles east of the Bethel Church and on road right-of-way.

To reach from the intersection of U.S. Highway 113 and State Highway 54 in Selbyville, go south on U.S. Highway 113 for 0.85 mile to a side road right at the state line. Turn right and go west on Morris Road for 1.95 miles to a T-intersection. Turn right and go northwest on a paved road for 1.9 miles to a side road right. Turn right and go north on a dirt road for 0.7 mile to Monument number 14 on the right. Continue northwest and southwest on the dirt road for 1.65 miles to a T-intersection in the cypress swamp. Turn right and go north on a dirt road for 0.6 mile to the marker on the left at the north edge of the swamp.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 15 1976, set in the top of a 10-inch round concrete monument projecting 6-inches. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 15 1976, set in an 8-inch mass of concrete which is 42 inches below the surface. They are 28.75 feet west-northwest of a rock corner stone, 18 feet north of the north edge of a timbered swamp, 12 feet west-northwest of the center of the road, 9 feet north of a culvert, 8 feet east of a ditch, and 1.5 feet north of a witness post.

For additional information, see description for station NECK 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 15
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND-ORDER

SOURCE: C-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE:	38 27 06.66364	ELEVATION:	11 METERS
GEODETIC LONGITUDE:	75 19 54.61840	NO CHECK	FEET

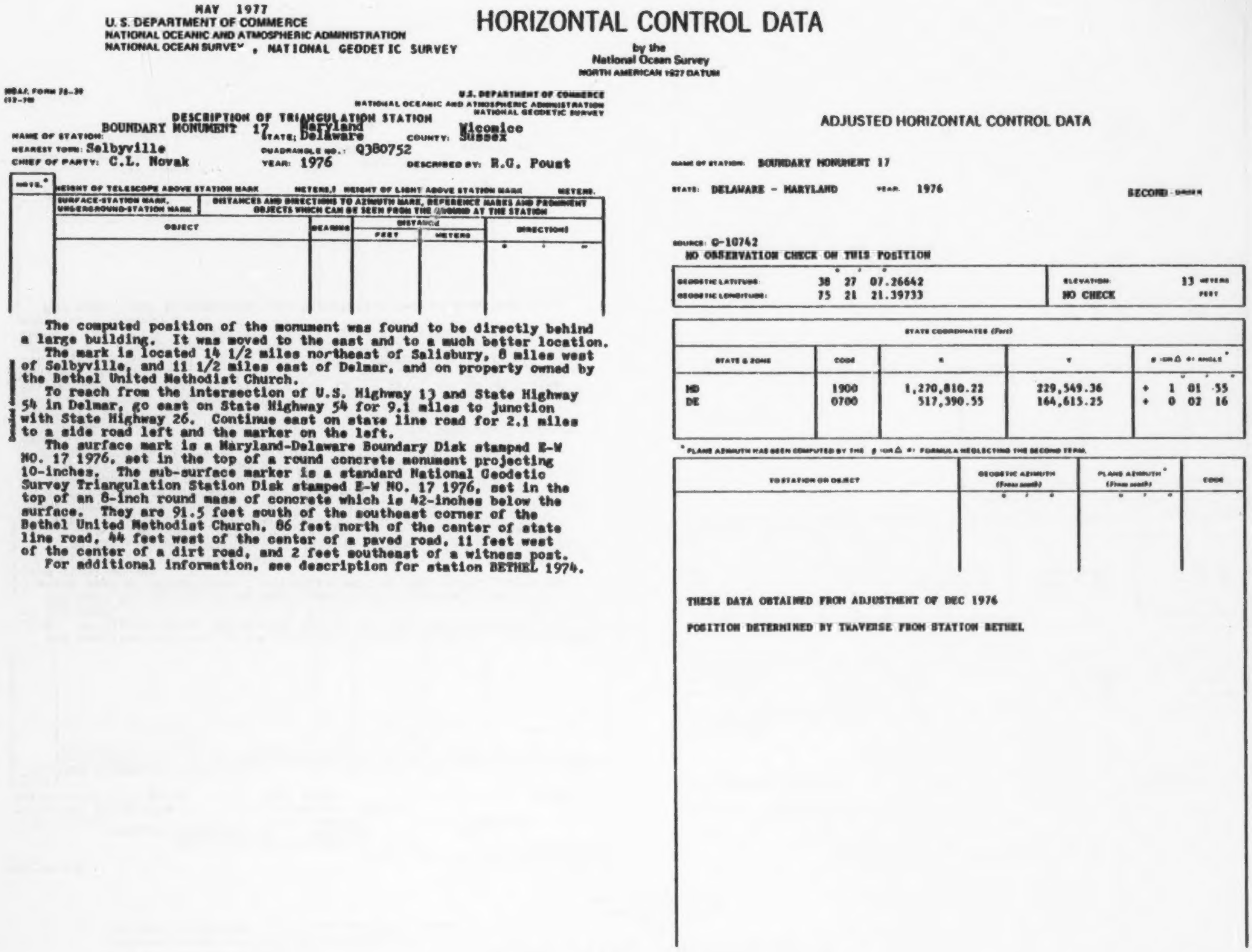
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ' "
MD	1900	1,277,713.62	229,613.63	+ 1 02 49
DE	0700	524,294.16	164,559.73	+ 0 03 10

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION NECK



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-30
(12-78)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 17
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Selbyville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The computed position of the monument was found to be directly behind a large building. It was moved to the east and to a much better location.

The mark is located 14 1/2 miles northeast of Salisbury, 8 miles west of Selbyville, and 11 1/2 miles east of Delmar, and on property owned by the Bethel United Methodist Church.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 9.1 miles to junction with State Highway 26. Continue east on state line road for 2.1 miles to a side road left and the marker on the left.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 17 1976, set in the top of a round concrete monument projecting 10-inches. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 17 1976, set in the top of an 8-inch round mass of concrete which is 42-inches below the surface. They are 91.5 feet south of the southeast corner of the Bethel United Methodist Church, 86 feet north of the center of state line road, 44 feet west of the center of a paved road, 11 feet west of the center of a dirt road, and 2 feet southeast of a witness post.

For additional information, see description for station BETHEL 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 17
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 07.26642	ELEVATION:	13 METERS
GEODETIC LONGITUDE:	75 21 21.39733	NO CHECK	FEET

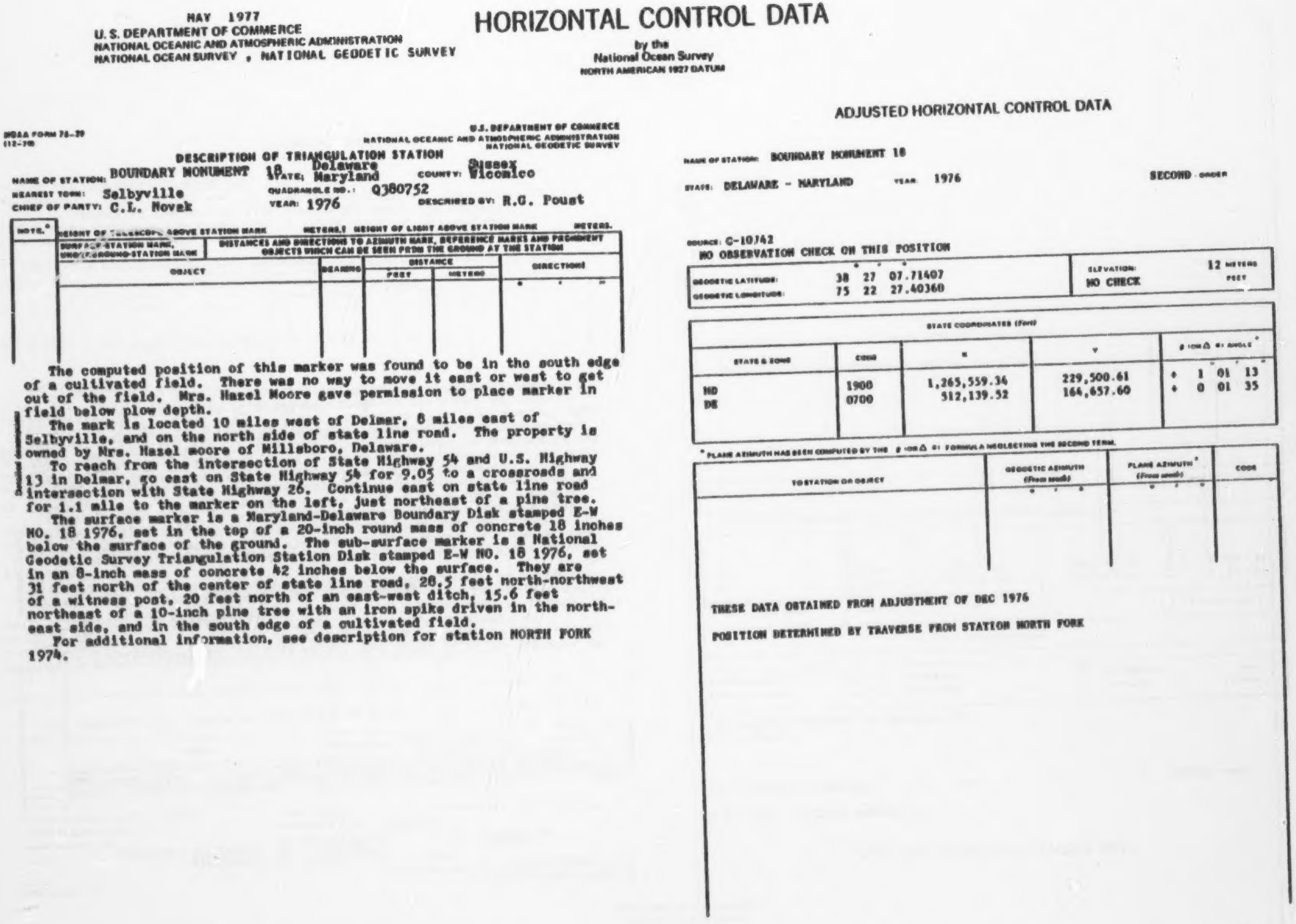
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,270,810.22	229,549.36	+ 1 01 55
DE	0700	517,390.55	164,615.25	+ 0 02 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION BETHEL



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-29
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 18
STATE: Delaware Maryland
COUNTY: Sussex Wicomico
NEAREST TOWN: Selbyville
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The computed position of this marker was found to be in the south edge of a cultivated field. There was no way to move it east or west to get out of the field. Mrs. Hazel Moore gave permission to place marker in field below plow depth.

The mark is located 10 miles west of Delmar, 8 miles east of Selbyville, and on the north side of state line road. The property is owned by Mrs. Hazel moore of Millsboro, Delaware.

To reach from the intersection of State Highway 54 and U.S. Highway 13 in Delmar, go east on State Highway 54 for 9.05 to a crossroads and intersection with State Highway 26. Continue east on state line road for 1.1 mile to the marker on the left, just northeast of a pine tree.

The surface marker is a Maryland-Delaware Boundary Disk stamped E-W NO. 18 1976, set in the top of a 20-inch round mass of concrete 18 inches below the surface of the ground. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 18 1976, set in an 8-inch mass of concrete 42 inches below the surface. They are 31 feet north of the center of state line road, 28.5 feet north-northwest of a witness post, 20 feet north of an east-west ditch, 15.6 feet northeast of a 10-inch pine tree with an iron spike driven in the north-east side, and in the south edge of a cultivated field.

For additional information, see description for station NORTH FORK 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 18
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 07.71407	ELEVATION:	12 METERS
GEODETIC LONGITUDE:	75 22 27.40360	NO CHECK	FEET

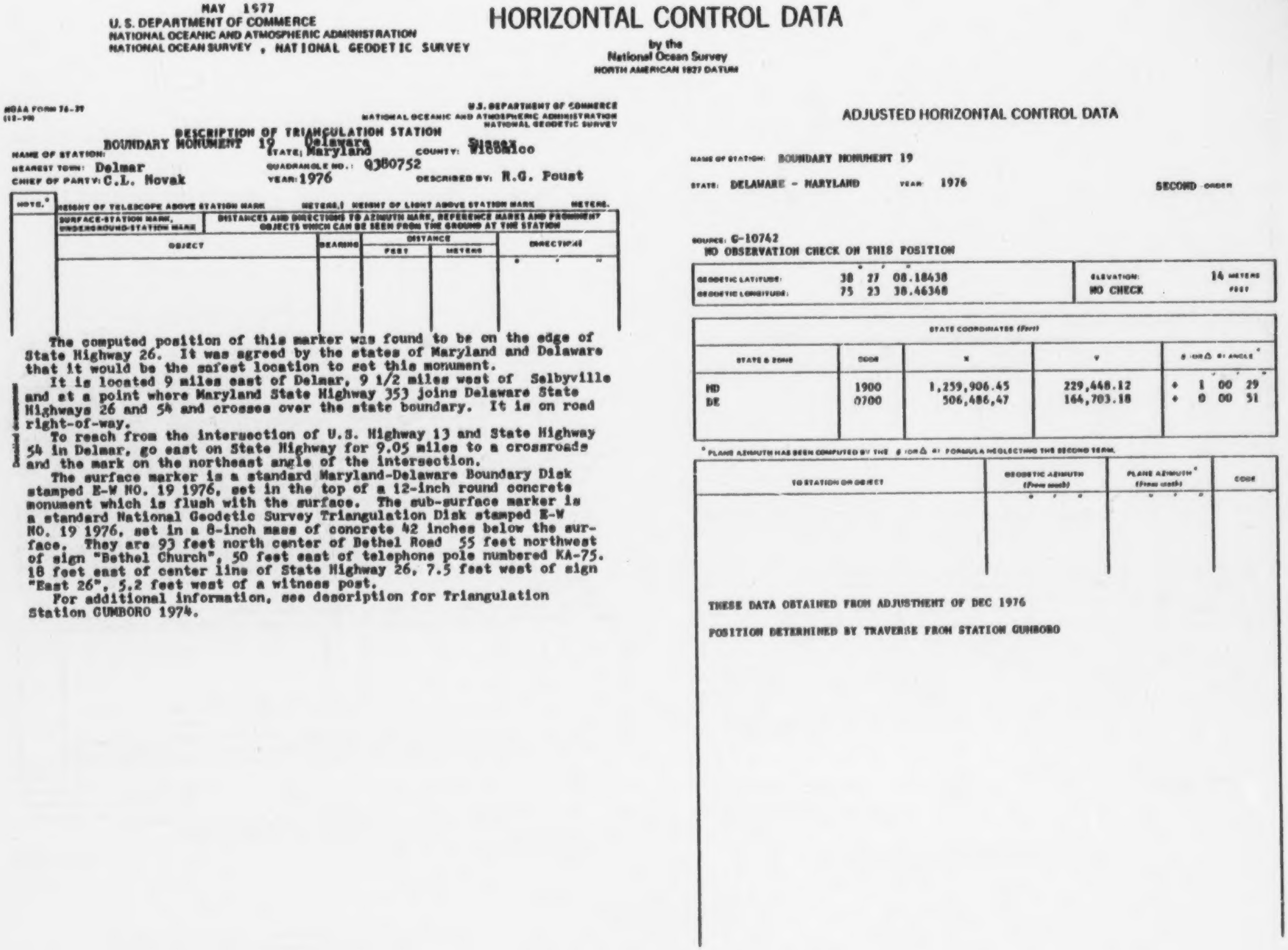
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) OR ANGLE* ° ′ ″
MD DE	1900 0700	1,265,559.34 512,139.52	229,500.61 164,657.60	+ 1 01 13 + 0 01 35

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION NORTH FORK



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-37
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 19
STATE: Delaware
Maryland
COUNTY: Sussex
Wicomico
NEAREST TOWN: Delmar
QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Foust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTION
			FEET	METERS	° ′ ″

The computed position of this marker was found to be on the edge of State Highway 26. It was agreed by the states of Maryland and Delaware that it would be the safest location to set this monument.

It is located 9 miles east of Delmar, 9 1/2 miles west of Selbyville and at a point where Maryland State Highway 353 joins Delaware State Highways 26 and 54 and crosses over the state boundary. It is on road right-of-way.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway for 9.05 miles to a crossroads and the mark on the northeast angle of the intersection.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 19 1976, set in the top of a 12-inch round concrete monument which is flush with the surface. The sub-surface marker is a standard National Geodetic Survey Triangulation Disk stamped E-W NO. 19 1976, set in a 8-inch mass of concrete 42 inches below the surface. They are 93 feet north center of Bethel Road 55 feet northwest of sign "Bethel Church", 50 feet east of telephone pole numbered KA-75. 18 feet east of center line of State Highway 26, 7.5 feet west of sign "East 26", 5.2 feet west of a witness post.

For additional information, see description for Triangulation Station GUMBORO 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 19
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 08.18438	ELEVATION:	14 METERS
GEODETIC LONGITUDE:	75 23 38.46348	NO CHECK	FEET

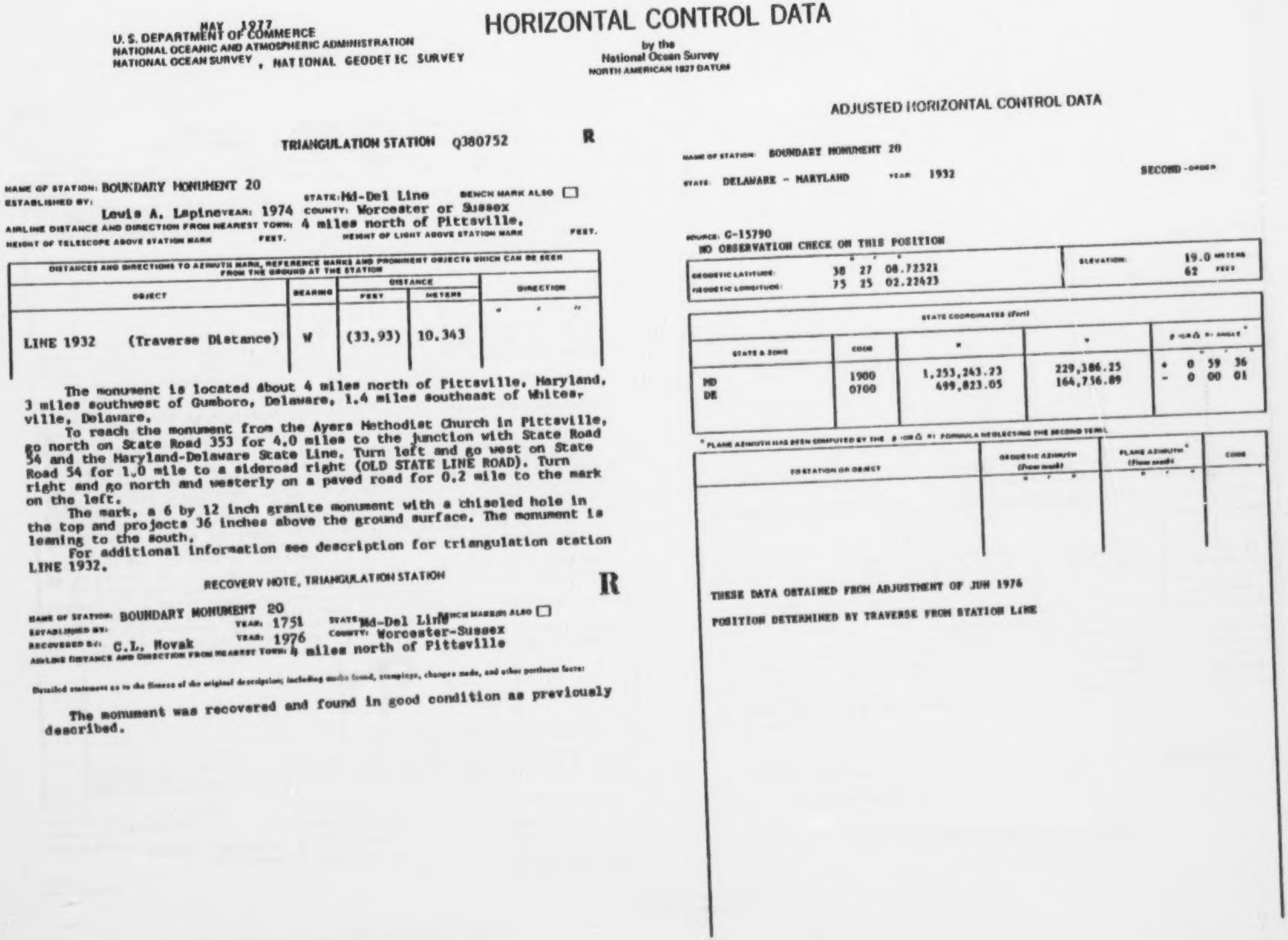
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
				° ′ ″
MD	1900	1,259,906.45	229,448.12	+ 1 00 29
DE	0700	506,486,47	164,703.18	+ 0 00 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION GUMBORO



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

TRIANGULATION STATION Q380752 **R**

NAME OF STATION: BOUNDARY MONUMENT 20
ESTABLISHED BY: Lewis A. Lapine YEAR: 1974
STATE: Md-Del Line BENCH MARK ALSO ☐
COUNTY: Worcester or Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4 miles north of Pittsville.
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	° ′ ″
LINE 1932 (Traverse Distance)	W	(33.93)	10.343	

The monument is located about 4 miles north of Pittsville, Maryland, 3 miles southwest of Gumboro, Delaware, 1.4 miles southeast of Whitesville, Delaware.

To reach the monument from the Ayers Methodist Church in Pittsville, go north on State Road 353 for 4.0 miles to the junction with State Road 54 and the Maryland-Delaware State Line. Turn left and go west on State Road 54 for 1.0 mile to a sideroad right (OLD STATE LINE ROAD). Turn right and go north and westerly on a paved road for 0.2 mile to the mark on the left.

The mark, a 6 by 12 inch granite monument with a chiseled hole in the top and projects 36 inches above the ground surface. The monument is leaning to the south.

For additional information see description for triangulation station LINE 1932.

RECOVERY NOTE, TRIANGULATION STATION **R**

NAME OF STATION: BOUNDARY MONUMENT 20
ESTABLISHED BY: YEAR: 1751
STATE: Md-Del Line BENCH MARK(S) ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976
COUNTY: Worcester-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4 miles north of Pittsville

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The monument was recovered and found in good condition as previously described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 20
STATE: DELAWARE - MARYLAND YEAR: 1932 SECOND-ORDER

SOURCE: G-15790
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 08.72321	ELEVATION:	19.0 METERS
GEODETIC LONGITUDE:	75 25 02.22423		62 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δα) ANGLE* ° ′ ″
MD DE	1900 0700	1,253,243.23 499,823.05	229,386.25 164,756.89	+ 0 59 36 - 0 00 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF JUN 1976

POSITION DETERMINED BY TRAVERSE FROM STATION LINE

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(11-74)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 21
NEAREST TOWN: Pittsville
CHIEF OF PARTY: C.L. Novak
STATE: Delaware Maryland
COUNTY: Sussex Wicomico
QUADRANGLE NO.: Q380752
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

The position of this monument was found to be in the center of the eastbound lane of State Highway 54. A 24-inch manhole was placed in the road and the monument placed below the manhole.

The marker is located 11 miles west of Selbyville, 7 1/2 miles east of Delmar, and 4 miles north-northwest of Pittsville.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 6.55 miles to a farm on the right and the mark in the road.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 21 1976, set in the top of a 12-inch concrete monument which is 20-inches below the top of the manhole. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 21 1976 set in an 8-inch mass of concrete which is 48-inches below the top of the manhole and surface of the road. They are 77 feet west-northwest of a mailbox, 50.8 feet southwest of a powerline pole numbered SA145, 36 feet west of the center of a private drive, 33 feet north of the northeast corner of a chicken coop, and 8 feet south of the center of State Highway 54.

For additional information, see description for station RACE 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 21
STATE: DELAWARE - MARYLAND YEAR 1976
SECOND ORDER
SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION:
GEODETIC LATITUDE:	38 27 10.26287	NO CHECK
GEODETIC LONGITUDE:	75 26 22.51171	20 METERS FEET

STATE COORDINATES (Feet)

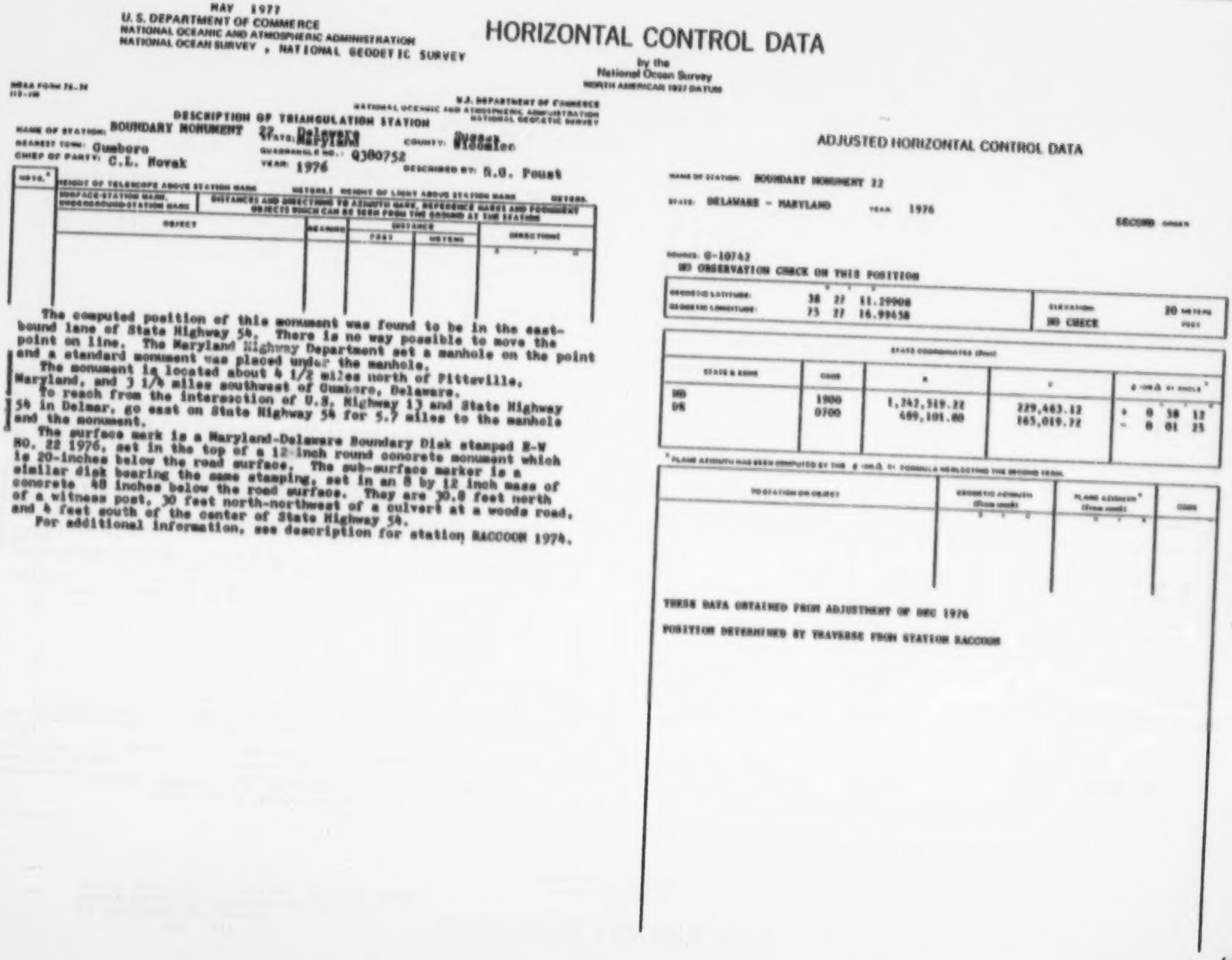
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,266,854.33	229,432.03	+ 0 38 46
DE	0700	493,436.00	164,913.46	- 0 00 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION RACE



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-36
(12-69)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 22. STATE: Delaware Maryland COUNTY: Sussex Wicomico
NEAREST TOWN: Gumboro QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Foust

NOTE	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS; HEIGHT OF LIGHT ABOVE STATION MARK METERS					
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "	

The computed position of this monument was found to be in the eastbound lane of State Highway 54. There is no way possible to move the point on line. The Maryland Highway Department set a manhole on the point and a standard monument was placed under the manhole.

The monument is located about 4 1/2 miles north of Pittsville, Maryland, and 3 1/4 miles southwest of Gumboro, Delaware.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 5.7 miles to the manhole and the monument.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 22 1976, set in the top of a 12-inch round concrete monument which is 20-inches below the road surface. The sub-surface marker is a similar disk bearing the same stamping, set in an 8 by 12 inch mass of concrete 48 inches below the road surface. They are 30.8 feet north of a witness post, 30 feet north-northwest of a culvert at a woods road, and 4 feet south of the center of State Highway 54.

For additional information, see description for station RACCOON 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 22
STATE: DELAWARE - MARYLAND YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE:	38 27 11.29908	ELEVATION	20 METERS
GEODETIC LONGITUDE:	75 27 16.99438	NO CHECK	FEET

STATE COORDINATES (feet)

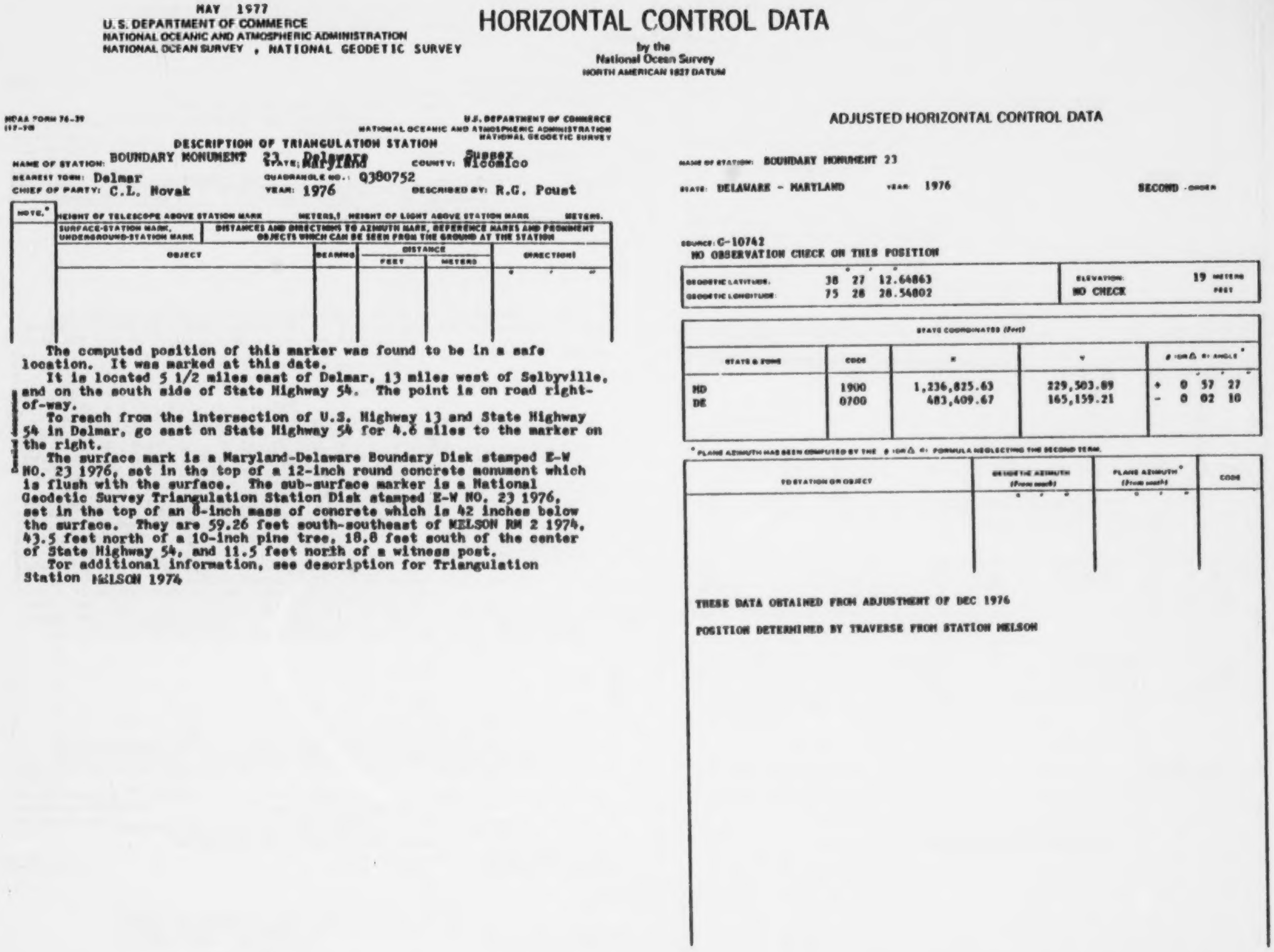
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ' "
MD DE	1900 0700	1,242,319.22 489,101.80	229,443.12 165,019.72	+ 0 38 12 - 0 01 25

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION RACCOON



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 23 STATE: Delaware Maryland COUNTY: Sussex Wicomico
NEAREST TOWN: Delmar QUADRANGLE NO.: Q380752
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
OBJECT	BEARING	DISTANCE		DIRECTION†
		FEET	METERS	° ′ ″

The computed position of this marker was found to be in a safe location. It was marked at this date.

It is located 5 1/2 miles east of Delmar, 13 miles west of Selbyville, and on the south side of State Highway 54. The point is on road right-of-way.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 4.6 miles to the marker on the right.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 23 1976, set in the top of a 12-inch round concrete monument which is flush with the surface. The sub-surface marker is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 23 1976, set in the top of an 8-inch mass of concrete which is 42 inches below the surface. They are 59.26 feet south-southeast of MELSON RM 2 1974, 43.5 feet north of a 10-inch pine tree, 18.8 feet south of the center of State Highway 54, and 11.5 feet north of a witness post.

For additional information, see description for Triangulation Station MELSON 1974

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 23

STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND - ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 12.64863	ELEVATION:	19 METERS
GEODETIC LONGITUDE:	75 28 28.54802	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
				° ′ ″
MD DE	1900 0700	1,236,825.63 483,409.67	229,503.89 165,159.21	+ 0 57 27 - 0 02 10

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION MELSON

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 24
STATE: Delaware Maryland
COUNTY: Sussex Wicomico
NEAREST TOWN: Delmar
QUADRANGLE NO.: Q380752
DESCRIBED BY: R.G. Poust
CHIEF OF PARTY: C.L. Novak
YEAR: 1976

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

The computed position of this monument was found to be in a safe location in the edge of State Highway 54.

The mark is located 4 1/2 miles east of Delmar, 14 miles west of Selbyville and on Highway right-of-way.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 3.6 miles to the marker on the right.

The surface mark is a Maryland-Delaware Boundary Disk stamped E-W NO. 24 1976, set in the top of a 12-inch round concrete monument which is flush with the surface. The sub-surface disk is a National Geodetic Survey Triangulation Station Disk stamped E-W NO. 24 1976, set in an 8-inch mass of concrete 42 inches below the surface. They are 68.92 feet northwest of MORRIS RM 1 1974; 60 feet northeast of the northwest edge of woods line, 53.68 feet northeast of MORRIS RM 2 1974, 22 feet south of the center of State Highway 54, 10 feet north-northwest of powerline pole numbered 38A, and 9.6 feet north-northwest of a witness post.

For additional information, see description for station MORRIS 1974.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 24
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	
GEODETIC LATITUDE:	38	27	13.89795	ELEVATION: 17 METERS FEET
GEODETIC LONGITUDE:	75	29	35.32947	NO CHECK

STATE COORDINATES (Feet)

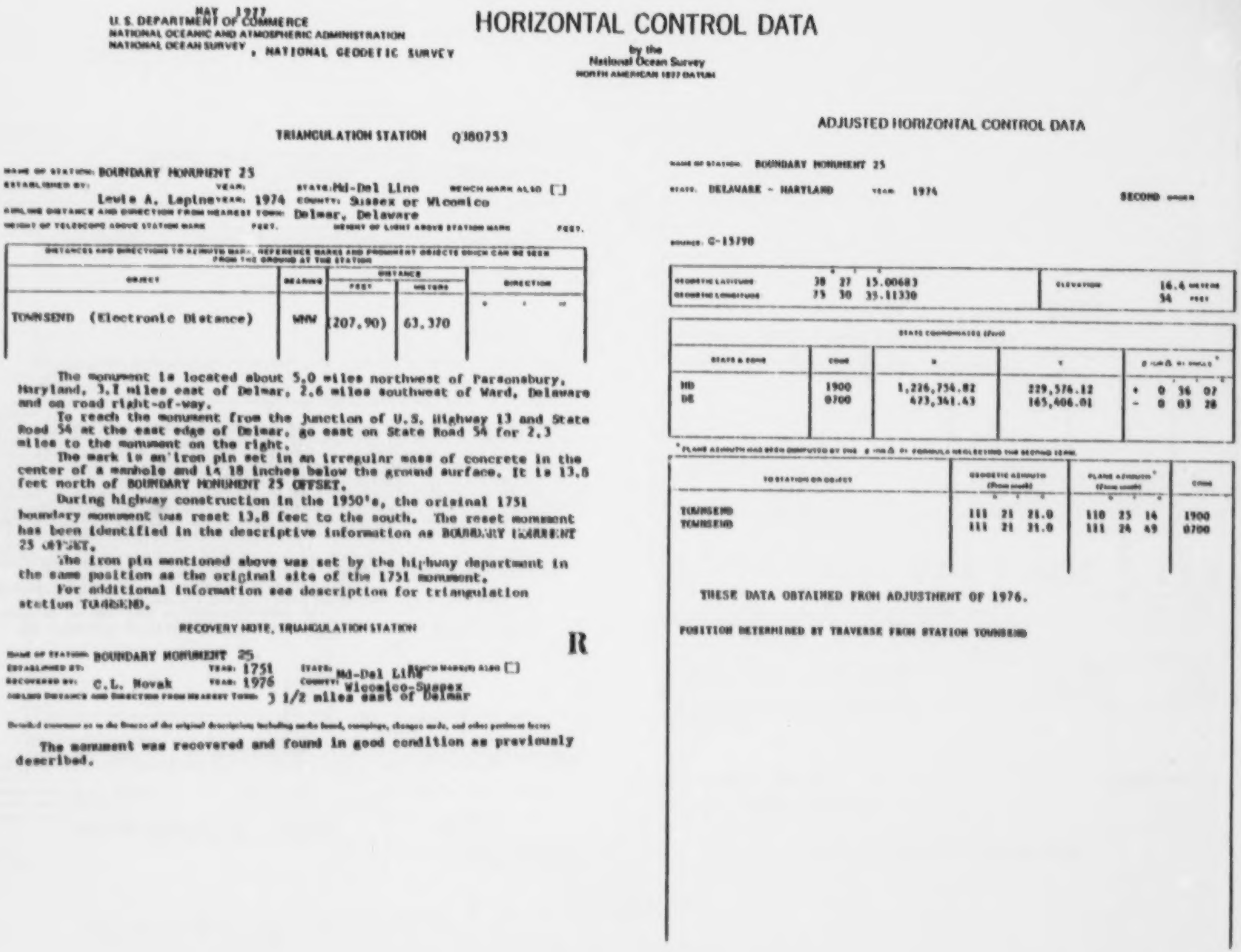
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,231,511.80	229,542.02	+ 0 56 45
DE	0700	478,097.20	165,289.46	- 0 02 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION MORRIS



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

TRIANGULATION STATION Q180753

NAME OF STATION: BOUNDARY MONUMENT 25
ESTABLISHED BY: Lewis A. Lapine YEAR: 1974 STATE: Md-Del Line BENCH MARK ALSO ☐
COUNTY: Sussex or Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: Delmar, Delaware
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
TOWNSEND (Electronic Distance)	WNW	(207.90)	63.370	

The monument is located about 5.0 miles northwest of Parsonsbury, Maryland, 3.1 miles east of Delmar, 2.6 miles southwest of Ward, Delaware and on road right-of-way.

To reach the monument from the junction of U.S. Highway 13 and State Road 54 at the east edge of Delmar, go east on State Road 54 for 2.3 miles to the monument on the right.

The mark is an iron pin set in an irregular mass of concrete in the center of a manhole and is 18 inches below the ground surface. It is 13.8 feet north of BOUNDARY MONUMENT 25 OFFSET.

During highway construction in the 1950's, the original 1751 boundary monument was reset 13.8 feet to the south. The reset monument has been identified in the descriptive information as BOUNDARY MONUMENT 25 OFFSET.

The iron pin mentioned above was set by the highway department in the same position as the original site of the 1751 monument.

For additional information see description for triangulation station TOWNSEND.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BOUNDARY MONUMENT 25
ESTABLISHED BY: YEAR: 1751 STATE: Md-Del Line BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 1/2 miles east of Delmar

Detailed statement as to the fitness of the original description including marks found, stampings, changes made, and other pertinent facts

The monument was recovered and found in good condition as previously described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 25
STATE: DELAWARE - MARYLAND YEAR: 1974 SECOND ORDER

SOURCE: G-15790

	° ' "		
GEODETIC LATITUDE	38 27 15.00683	ELEVATION	16.4 METERS
GEODETIC LONGITUDE	75 30 35.11330		54 FEET

STATE COORDINATES (Feet)

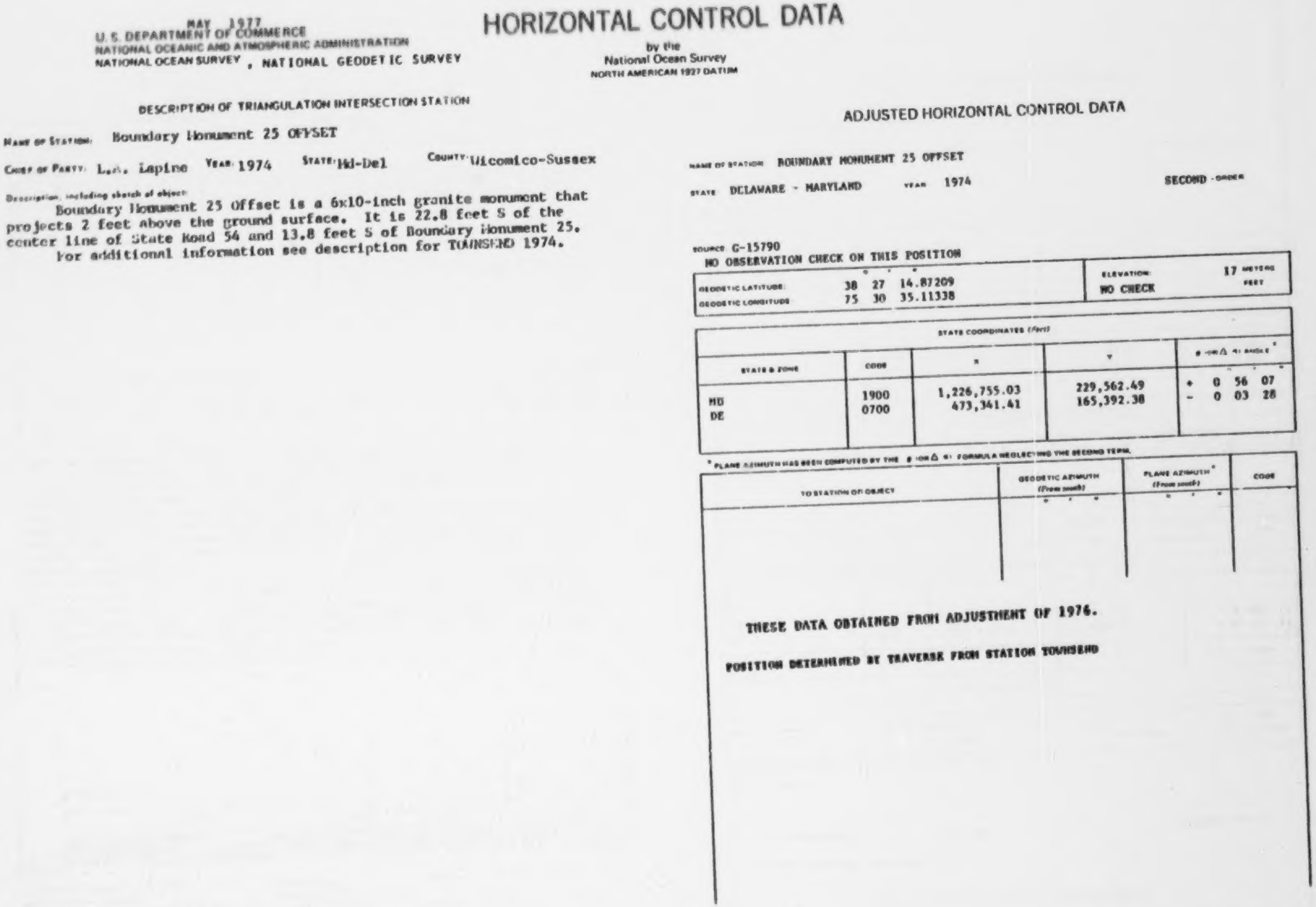
STATE & ZONE	CODE	X	Y	θ (or Δα) or (mapping angle)* ° ' "
MD	1900	1,226,754.82	229,576.12	+ 0 36 07
DE	0700	473,341.43	165,406.01	- 0 03 28

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE
TOWNSEND	111 21 21.0	110 25 14	1900
TOWNSEND	111 21 31.0	111 24 49	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

POSITION DETERMINED BY TRAVERSE FROM STATION TOWNSEND



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION INTERSECTION STATION

Name of Station: Boundary Monument 25 OFFSET

Chief of Party: L.A. Lapine Year: 1974 State: Md-Del County: Wicomico-Sussex

Description, including sketch of object:

Boundary Monument 25 Offset is a 6x10-inch granite monument that projects 2 feet above the ground surface. It is 22.8 feet S of the center line of State Road 54 and 13.8 feet S of Boundary Monument 25.

For additional information see description for TOWNSEND 1974.

ADJUSTED HORIZONTAL CONTROL DATA

Name of Station: BOUNDARY MONUMENT 25 OFFSET

State: DELAWARE - MARYLAND Year: 1974 SECOND - ORDER

Source: G-15790
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	
GEODETIC LATITUDE:	38	27	14.87209	ELEVATION: 17 METERS
GEODETIC LONGITUDE:	75	30	35.11338	NO CHECK FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE* ° ′ ″
MD	1900	1,226,755.03	229,562.49	+ 0 56 07
DE	0700	473,341.41	165,392.38	- 0 03 28

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

POSITION DETERMINED BY TRAVERSE FROM STATION TOWNSEND

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 26
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Pount

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″
ANDREWS 1974			10.373	181 57 28 *

* Geodetic azimuth.

Detailed description

The monument is located about 16 airline miles west of Selbyville, 2-1/2 miles east of Delmar and on State Highway 54 right-of-way.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in Delmar, go east on State Highway 54 for 1.5 miles to the monument on the right.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 26 1981, set in the top of a 14-inch square concrete monument which is 17-inches below the road surface. The sub-surface marker is a National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 26 1981, set in an 8-inch mass of concrete 4.7 feet below the surface of the road. They are below a 26-inch round sanitary sewer manhole cover, 144.4 feet north-northwest of the northwest corner of Mr. R. E. Bennett's home, 36.2 feet south of a telephone pole numbered 65, 36.0 feet south of a witness post, 26.5 feet north-northeast of a powerline pole numbered 48842 96382 48 B 15 and 7.7 feet south of the center of State Highway 54.

For additional information, see description of station ANDREWS 1974.

Station E-W No. 26, established on line between Boundary Monuments 25 and 35 in 1976, was disturbed by farm machinery and the station was destroyed in 1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 26
STATE: DELAWARE-MARYLAND
YEAR: 1981
SECOND -ORDER
SOURCE: G-16489

NO OBSERVATIONAL CHECK ON THIS POSITION

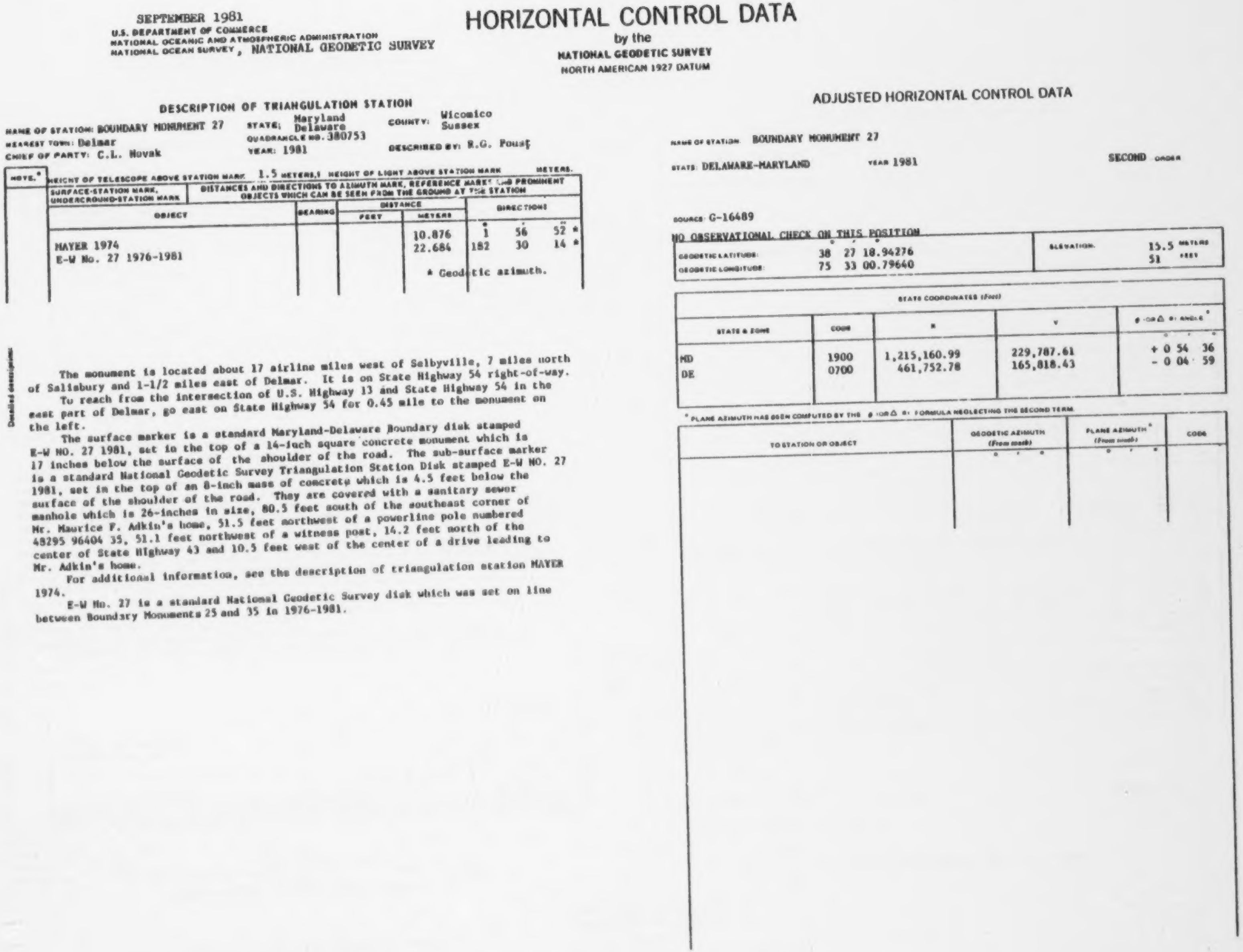
GEODETIC LATITUDE:	38 27 17.07006	ELEVATION	15.3 METERS
GEODETIC LONGITUDE:	75 31 51.25067		50 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
MD	1900	1,220,695.57	229,686.64	+ 0 55 19
DE	0700	467,284.89	165,621.55	- 0 04 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE



SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 27
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO. 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Poust

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	° ′ ″
	MAYER 1974			10.876	1 56 52 *
	E-W No. 27 1976-1981			22.684	182 30 14 *

* Geodetic azimuth.

Detailed description

The monument is located about 17 airline miles west of Selbyville, 7 miles north of Salisbury and 1-1/2 miles east of Delmar. It is on State Highway 54 right-of-way.

To reach from the intersection of U.S. Highway 13 and State Highway 54 in the east part of Delmar, go east on State Highway 54 for 0.45 mile to the monument on the left.

The surface marker is a standard Maryland-Delaware Boundary disk stamped E-W NO. 27 1981, set in the top of a 14-inch square concrete monument which is 17 inches below the surface of the shoulder of the road. The sub-surface marker is a standard National Geodetic Survey Triangulation Station Disk stamped E-W NO. 27 1981, set in the top of an 8-inch mass of concrete which is 4.5 feet below the surface of the shoulder of the road. They are covered with a sanitary sewer manhole which is 26-inches in size, 80.5 feet south of the southeast corner of Mr. Maurice F. Adkin's home, 51.5 feet northwest of a powerline pole numbered 48295 96404 35, 51.1 feet northwest of a witness post, 14.2 feet north of the center of State Highway 43 and 10.5 feet west of the center of a drive leading to Mr. Adkin's home.

For additional information, see the description of triangulation station MAYER 1974.

E-W No. 27 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 27
STATE: DELAWARE-MARYLAND
YEAR 1981
SECOND ORDER

SOURCE: G-16489

NO OBSERVATIONAL CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 18.94276	ELEVATION:	15.5 METERS
GEODETIC LONGITUDE:	75 33 00.79640		51 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,215,160.99	229,787.61	+ 0 54 36
DE	0700	461,752.78	165,818.43	- 0 04 59

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 28 STATE: Maryland Delaware COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak YEAR: 1981 DESCRIBED BY: R.G. Foust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS; HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS °	′	″
FREEDOM 1974			7.811	181	56	52 *
E-W No. 28 1976-1981			35.394	173	48	40 *

*Geodetic azimuth.

The monument is located about 18 miles west of Selbyville, 7 miles north of Salisbury and 1/2 mile east of the center of Delmar. It is on State Highway 54 right-of-way and just south of the town park.

To reach from a point where State Highway 54 crosses a railroad in Delmar, go east on State Highway 54 for 0.45 mile to the marker in the center of the road.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 28 1981, set in the top of an 11-inch square concrete monument which is 1.1 feet below the road surface. The sub-surface mark is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 28 1981, set in the top of a 12-inch square concrete post which is 6-inches thick and 3.6 feet below the surface of the road. They are below a 24-inch round Maryland State Highway Administration manhole with SHA inscribed on the lid, 51.7 feet south-southeast of a granite monument marking the town park, 42.1 feet north of the northeast corner of house numbered 416, 21.8 feet south of a 16-inch pine tree, 17.9 feet north-northwest of a powerline pole numbered 47661 96434 and 2.3 feet north of the center line of State Highway 54.

For additional information, see the description of station FREEDOM 1974.

E-W No. 28 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 28
STATE DELAWARE-MARYLAND YEAR 1981 SECOND ORDER

SOURCE: G-16489

NO OBSERVATIONAL CHECK ON THIS POSITION

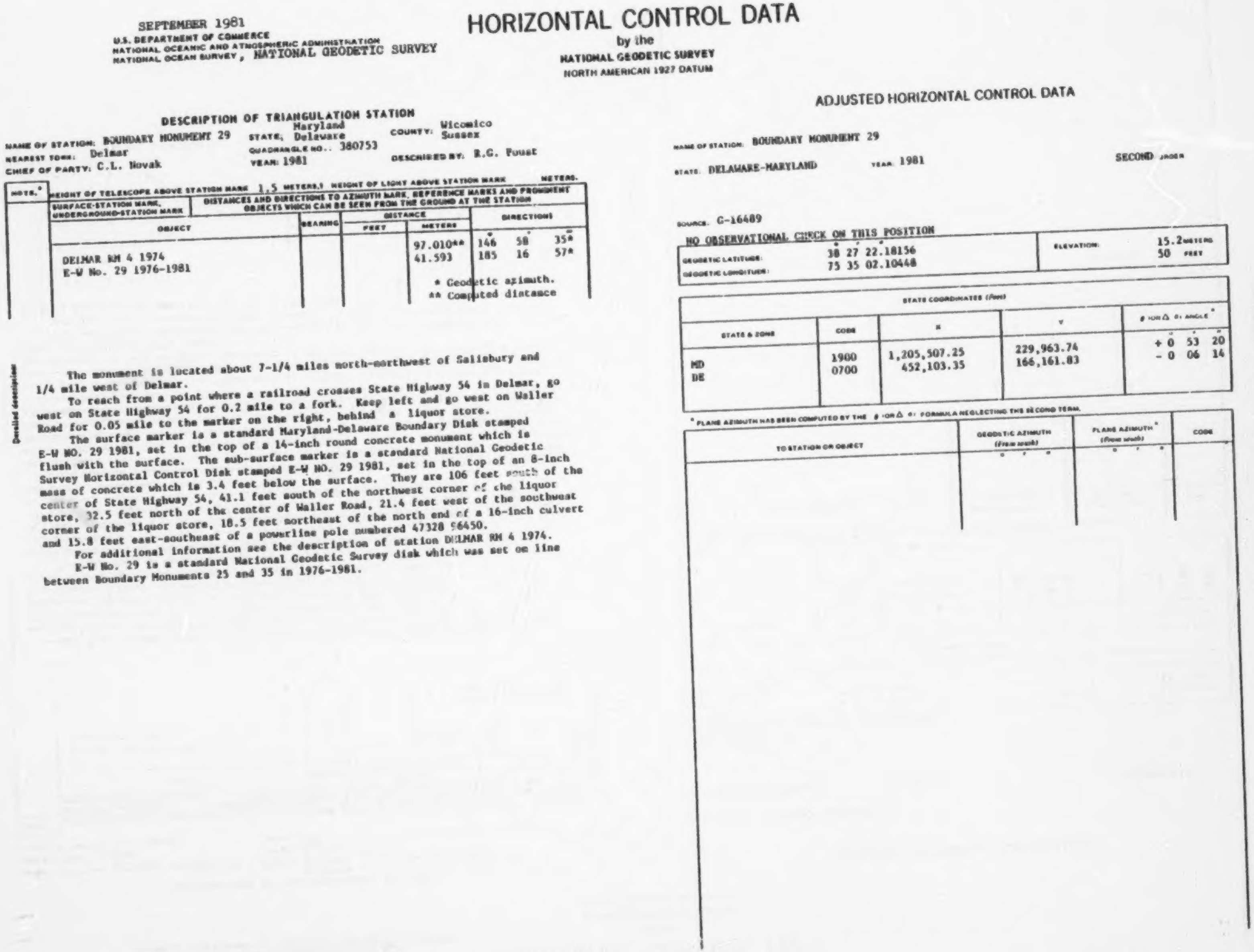
	° ′ ″		
GEODETIC LATITUDE	38 27 21.06031	ELEVATION	15.4 METERS
GEODETIC LONGITUDE	75 34 19.96432		50 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,208,860.75	229,902.54	+ 0 53 46
DE	0700	455,455.36	166,042.53	- 0 05 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE



SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 29
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Foust

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	° ′ ″
	DELMAR RM 4 1974			97.010**	146 58 35*
	E-W No. 29 1976-1981			41.593	185 16 57*

* Geodetic azimuth.
** Computed distance

Detailed description

The monument is located about 7-1/4 miles north-northwest of Salisbury and
1/4 mile west of Delmar.
To reach from a point where a railroad crosses State Highway 54 in Delmar, go
west on State Highway 54 for 0.2 mile to a fork. Keep left and go west on Waller
Road for 0.05 mile to the marker on the right, behind a liquor store.
The surface marker is a standard Maryland-Delaware Boundary Disk stamped
E-W NO. 29 1981, set in the top of a 14-inch round concrete monument which is
flush with the surface. The sub-surface marker is a standard National Geodetic
Survey Horizontal Control Disk stamped E-W NO. 29 1981, set in the top of an 8-inch
mass of concrete which is 3.4 feet below the surface. They are 106 feet south of the
center of State Highway 54, 41.1 feet south of the northwest corner of the liquor
store, 32.5 feet north of the center of Waller Road, 21.4 feet west of the southwest
corner of the liquor store, 18.5 feet northeast of the north end of a 16-inch culvert
and 15.8 feet east-southeast of a powerline pole numbered 47328 96450.
For additional information see the description of station DELMAR RM 4 1974.
E-W No. 29 is a standard National Geodetic Survey disk which was set on line
between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 29
STATE: DELAWARE-MARYLAND
YEAR: 1981
SECOND ORDER

SOURCE: G-16489
NO OBSERVATIONAL CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 22.18156	ELEVATION:	15.2 METERS
GEODETIC LONGITUDE:	75 35 02.10448		50 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,205,507.25	229,963.74	+ 0 53 20
DE	0700	452,103.35	166,161.83	- 0 06 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 30	STATE: Maryland Delaware	COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar	QUADRANGLE NO.: 380753	
CHIEF OF PARTY: C.L. Novak	YEAR: 1981	DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTIONS		
		FEET	METERS	°	′	″
E-W No. 30 1976-1981			55.812**	160	29	18 *
CONNELLY 2 1981			6.476	202	53	41 *

* Geodetic azimuth.
** Computed distance.

Detailed description:

The site of this monument was selected and temporarily marked during a joint meeting between the National Geodetic Survey, the State of Maryland, and the State of Delaware on August 26, 1980. It was agreed that the Monument No. 30 should be placed in the south edge of an east-west paved road and covered with a steel manhole. The temporary point was marked and referenced on August 26, 1980, and a permanent monument was established on June 24, 1981, as described in this text.

The monument is located about 7-1/2 miles north-northwest of Salisbury, 1-1/4 miles west of Delmar and 1/2 mile south of State Highway 54. It is on road right-of-way.

To reach from a point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and continue west on Waller Road for 0.35 mile to a fork. Keep right and continue west on a paved road for 0.75 mile to the monument on the left.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 30 1981, set in the top of a 14-inch square concrete monument which is 20-inches below the road surface. The sub-surface marker is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 30 1981, set in the top of an 8-inch mass of concrete which is 4.6 feet below the surface of the road. They are covered with a 26-inch steel manhole with "SANITARY SEWER" inscribed on the top of the cover. They are 63.3 feet west of the west end of a 48-inch culvert along the south side of the road, 34.8 feet south-southwest of a 16-inch oak tree with a triangular blaze, 25.4 feet south-southwest of a witness post, 10.6 feet north-northwest of another witness post, 9 feet south of the center of the road and 7.9 feet north of a power-line pole numbered 46798 96468.

For additional information see the description of station CONNELLY 2.

E-W No. 30 is a standard National Geodetic Survey disk which was set on line between Boundary Mounuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 30

STATE: DELAWARE-MARYLAND YEAR: 1981 SECOND ORDER

SOURCE: C-16489
NO OBSERVATIONAL CHECK ON THIS POSITION

GEODETIC LATITUDE:	38° 27′ 23.″92563	ELEVATION:	13.5 METERS
GEODETIC LONGITUDE:	75 36 07.99844		44 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
MD	1900	1,200,263.49	230,059.37	+ 0° 52′ 38″
DE	0700	446,861.92	166,348.30	- 0 06 55

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 31
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
YEAR: 1981
DESCRIBED BY: R.C. Foust
CHIEF OF PARTY: C.L. Novak

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION: OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
	HURLEY 1974			10.986	2	39	40*
	E-W No. 31 1976-1981			40.462	188	51	19*

* Geodetic azimuth.

Detailed description:

The monument is located about 7 airline miles northwest of Salisbury, 4-1/2 miles northeast of Hebron and 2-1/4 miles west of Delmar. It is on the north edge of road right-of-way.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 31 1981, set in the top of an 11-inch square concrete monument which projects 15 inches. The sub-surface marker is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 31 1981, set in the top of an 8-inch mass of concrete which is 4.5 feet below the surface. They are 18.5 feet west of the north end of a 24-inch culvert, 17.8 feet north of the center of the road, 1.5 feet south of a witness post and 2 feet north of a ditch.

To reach from a point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and continue west on Waller Road for 0.35 mile to a fork. Keep right and continue west on a paved road for 1.7 miles to the marker on the right, just west on a small wooded area.

For additional information, see the descripion of station HURLEY 1974.

E-W No. 31 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 31
STATE: DELAWARE-MARYLAND
YEAR: 1981
SECOND-ORDER

SOURCE: G-16489
NO OBSERVATIONAL CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 26.62809	ELEVATION: NO CHECK	14 METERS
GEODETIC LONGITUDE:	75 37 22.12816		FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (ON Δ α) ANGLE* °	′	″
MD	1900	1,194,363.27	230,243.10	+ 0	51	52
DE	0700	440,965.64	166,634.22	- 0	07	42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (ON Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 32	STATE: Maryland Delaware	COUNTY: Wicomico Sussex	
NEAREST TOWN: Hebron	QUADRANGLE NO.: 380753		
CHIEF OF PARTY: C.L. Novak	YEAR: 1981	DESCRIBED BY: R.C. Poust	

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE		DIRECTION		
			FEET	METERS	°	′	″
	DUMP 1974			48.398	20	25	08*
	E-W No. 32 1976-1981			27.075	200	25	07*

* Geodetic azimuth.

The computed site of this monument was found to be in the edge of a water filled area. A new point was selected on the boundary and on line between stations DUMP 1974 and E-W No. 32, 1976-1981.

The monument is located 3-1/2 miles west of Delmar, 3-1/2 miles north of Hebron and in the northwest edge of the Wicomico County Sanitary Land Fill complex.

To reach from a point where State Highway 54 crosses the railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and continue west on Waller Road for 0.35 mile to a fork. Keep left and follow Waller Road southwest and west for 3.6 miles to a side road right and a gate on the right. Turn right and go north on a sand road picking way through the dump for 0.3 mile to the most northwest corner of the dump and the monument in a wooded area which separates the dump from cultivated fields.

The surface marker is a standard Maryland-Delaware boundary disk stamped E-W NO. 32 1981, set in the top of a 10-inch round concrete monument which projects 4-inches. The sub-surface marker is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 32 1981, set in a 6-inch mass of concrete which is 3.2 feet below the surface. They are 44 feet north of the center of a dim east-west sand road, 25 feet west of the west edge of a water filled swamp, 24.0 feet west-northwest of a 6-inch square concrete boundary marker for the dump and 2.5 feet east of a witness post.

For additional information see the description of station DUMP 1974.

E-W No. 32 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 32

STATE DELAWARE-MARYLAND YEAR 1981 SECOND ORDER

SOURCE G-16489

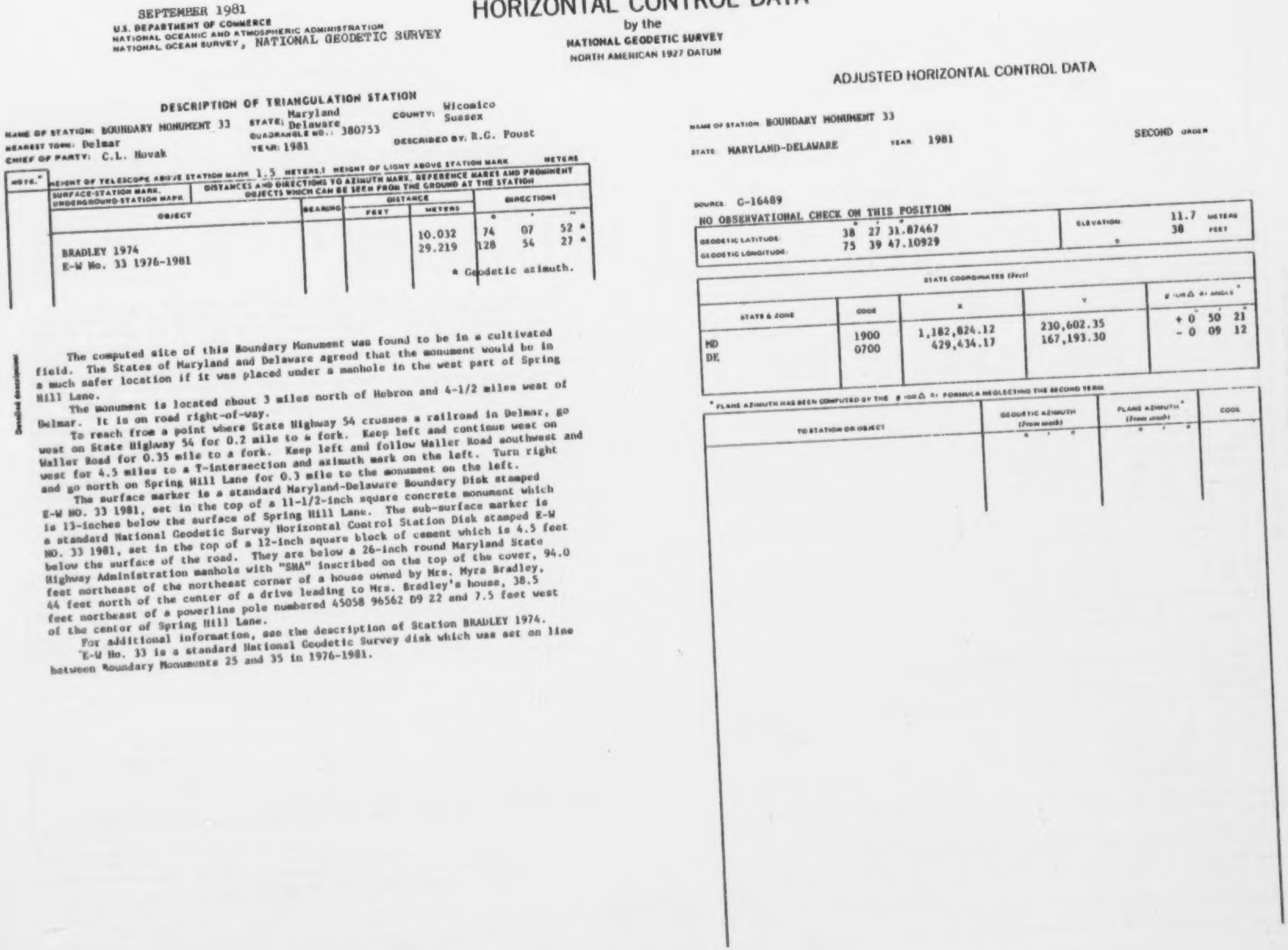
NO OBSERVATIONAL CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 27 29.96802	ELEVATION:	12.8 METERS
GEODETIC LONGITUDE:	75 38 54.25873		42 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE* ° ′ ″
MD	1900	1,187,030.48	230,471.40	+ 0 50 54
DE	0700	433,637.73	166,989.50	- 0 08 39

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE



SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 33
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Poust

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS.) HEIGHT OF LIGHT ABOVE STATION MARK METERS

NOTE.*	SURFACE-STATION MARK. UNDERGROUND-STATION MARK: OBJECT	BEARING	DISTANCE: FEET	DISTANCE: METERS	DIRECTIONS °	′	″
	BRADLEY 1974			10.032	74	07	52 *
	E-W No. 33 1976-1981			29.219	128	54	27 *

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

* Geodetic azimuth.

Detailed description

The computed site of this Boundary Monument was found to be in a cultivated field. The States of Maryland and Delaware agreed that the monument would be in a much safer location if it was placed under a manhole in the west part of Spring Hill Lane.

The monument is located about 3 miles north of Hebron and 4-1/2 miles west of Delmar. It is on road right-of-way.

To reach from a point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and continue west on Waller Road for 0.35 mile to a fork. Keep left and follow Waller Road southwest and west for 4.5 miles to a T-intersection and azimuth mark on the left. Turn right and go north on Spring Hill Lane for 0.3 mile to the monument on the left.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 33 1981, set in the top of a 11-1/2-inch square concrete monument which is 13-inches below the surface of Spring Hill Lane. The sub-surface marker is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 33 1981, set in the top of a 12-inch square block of cement which is 4.5 feet below the surface of the road. They are below a 26-inch round Maryland State Highway Administration manhole with "SHA" inscribed on the top of the cover, 94.0 feet northeast of the northeast corner of a house owned by Mrs. Myra Bradley, 44 feet north of the center of a drive leading to Mrs. Bradley's house, 38.5 feet northeast of a powerline pole numbered 45058 96562 D9 22 and 7.5 feet west of the center of Spring Hill Lane.

For additional information, see the description of Station BRADLEY 1974.

E-W No. 33 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 33
STATE: MARYLAND-DELAWARE
YEAR: 1981
SECOND ORDER

SOURCE: G-16489

NO OBSERVATIONAL CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 27 31.87467	ELEVATION	11.7 METERS
GEODETIC LONGITUDE	75 39 47.10929		38 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
MD	1900	1,182,824.12	230,602.35	+ 0° 50′ 21″
DE	0700	429,434.17	167,193.30	- 0 09 12

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 34
STATE: Maryland Delaware
COUNTY: Wicomico Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Foust

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK — OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS °	'	"
	BLACKWATER 1974 (EDM)	NW		424.282	134	03	31.6*
	E-W No. 34 1976-1981	N		8.447	182	37	55 *

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

* Geodetic azimuth

The monument is located 5-1/2 miles west of Delmar, 1 mile east of the Maryland-Delaware Corner Stone and on Property owned by Mr. Robert L. Trader, Route 2, Delmar, Delaware. Telephone number (302) 846-2466.

To reach from the point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 5.35 miles to a fork. Keep left and continue west on State Highway 54 for 0.6 mile to a private drive on the left and station BLACKWATER 1974 on the left. Turn left and go south on the private drive for 0.15 mile to a T-intersection just after passing Mr. Trader's barn. Turn left and go east on a field road for 0.2 mile to a north-south ditch and a double highline pole on the left (Numbered DVD 61). Turn right and go south along the west side of the ditch on a field road for 0.05 mile to a large culvert on the left and the marker on the left.

The surface marker is a standard Maryland-Delaware Boundary Disk stamped E-W NO. 34 1981, set in the top of a 10-inch round concrete monument which is flush with the surface. The sub-surface marker is a standard National Geodetic Survey Horizontal Control Station Disk stamped E-W NO. 34 1981, set in the top of a 6-inch mass of concrete which is 3.1 feet below the surface of the ground. They are 26.5 feet south of a witness post, 15.3 feet northwest of the center of the south end of the large culvert, 15 feet east of the center of the field road, 12.8 feet south of a 30-inch tree with a triangular blaze on the northwest side, 4 feet north of the center of a field road leading east across the culvert and in the east edge of a cultivated field.

For additional information, see the description of station BLACKWATER 1974.

E-W No. 34 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 34
STATE: DELAWARE-MARYLAND YEAR: 1981 SECOND ORDER

SOURCE: G-16489
NO OBSERVATIONAL CHECK ON THIS POSITION

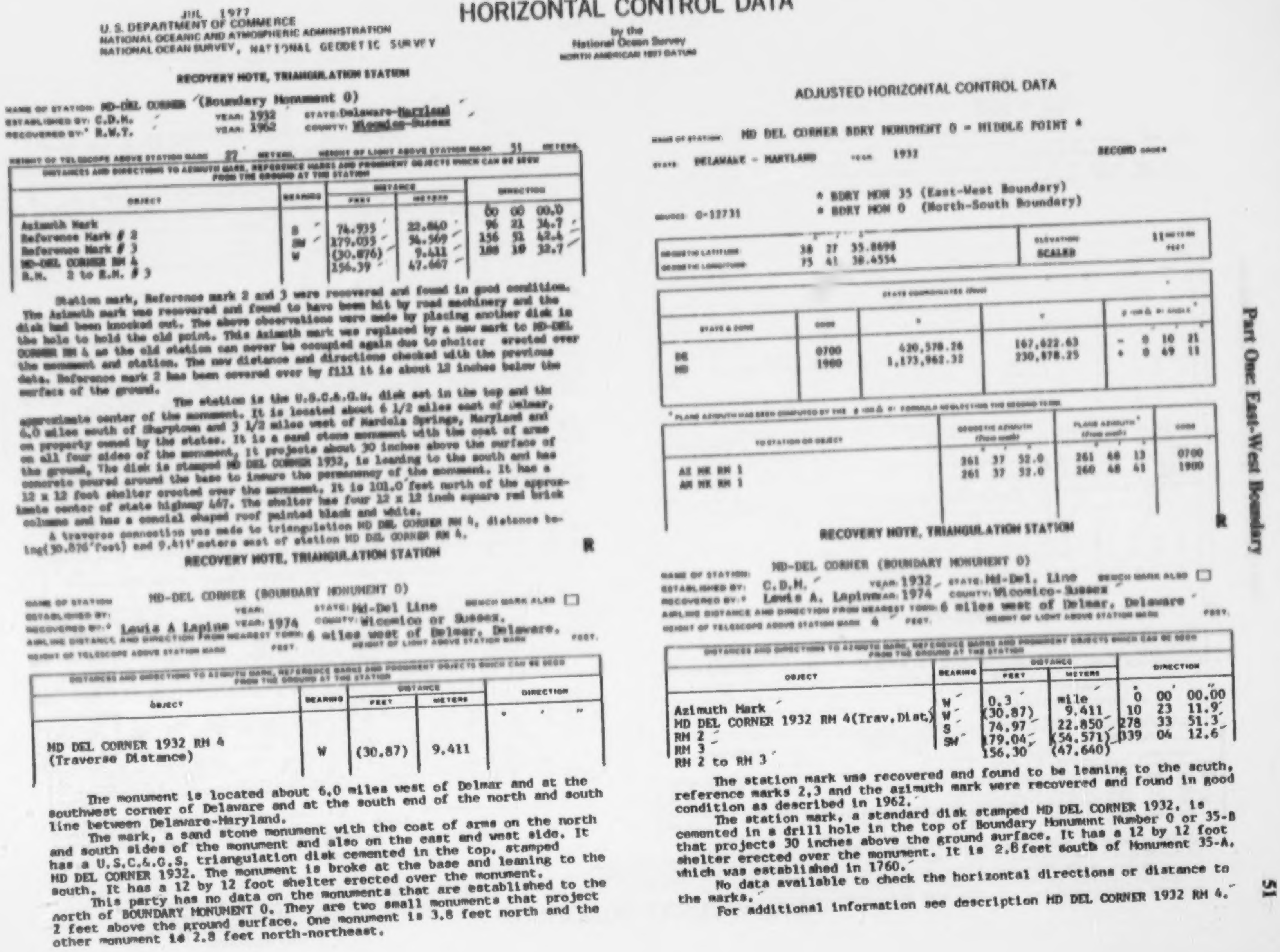
	° ' "		
GEODETIC LATITUDE	38 27 33.94067	ELEVATION	10.9 METERS
GEODETIC LONGITUDE	75 40 44.59246		36 FEET

STATE COORDINATES (FEET)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ' "
MD	1900	1,178,249.13	230,744.76	+ 0 49 45
DE	0700	424,862.21	167,414.92	- 0 09 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE
BLACKWATER 1974	134 03 31.6	133 13 46	1900
BLACKWATER 1974	134 03 31.6	134 13 19	0700



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MD-DEL CORNER (Boundary Monument 0)
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Delaware-Maryland
RECOVERED BY: R.W.T. YEAR: 1962 COUNTY: Wicomico-Sussex

HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 31 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark				00 00 00.0
Reference Mark # 2	S	74.935	22.840	96 21 34.7
Reference Mark # 3	SW	179.035	54.569	156 51 42.4
MD-DEL CORNER RM 4	W	(30.876)	9.411	188 10 32.7
R.M. 2 to R.M. # 3		156.39	47.667	

Station mark, Reference mark 2 and 3 were recovered and found in good condition. The Azimuth mark was recovered and found to have been hit by road machinery and the disk had been knocked out. The above observations were made by placing another disk in the hole to hold the old point. This Azimuth mark was replaced by a new mark to MD-DEL CORNER RM 4 as the old station can never be occupied again due to shelter erected over the monument and station. The new distance and directions checked with the previous data. Reference mark 2 has been covered over by fill it is about 12 inches below the surface of the ground.

The station is the U.S.C.&.G.S. disk set in the top and the approximate center of the monument. It is located about 6 1/2 miles east of Delmar, 6.0 miles south of Sharptown and 3 1/2 miles west of Mardela Springs, Maryland and on property owned by the states. It is a sand stone monument with the coat of arms on all four sides of the monument, it projects about 30 inches above the surface of the ground. The disk is stamped MD DEL CORNER 1932, is leaning to the south and has concrete poured around the base to insure the permanency of the monument. It has a 12 x 12 foot shelter erected over the monument. It is 101.0 feet north of the approximate center of state highway 467. The shelter has four 12 x 12 inch square red brick columns and has a conical shaped roof painted black and white.

A traverse connection was made to triangulation MD DEL CORNER RM 4, distance being(30.876'feet) and 9.411'meters east of station MD DEL CORNER RM 4.

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION MD-DEL CORNER (BOUNDARY MONUMENT 0) BENCH MARK ALSO ☐
ESTABLISHED BY: YEAR: STATE: Md-Del Line
RECOVERED BY: Lewis A Lapine YEAR: 1974 COUNTY: Wicomico or Sussex.
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 6 miles west of Delmar, Delaware.
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
MD DEL CORNER 1932 RM 4 (Traverse Distance)	W	(30.87)	9.411	

The monument is located about 6.0 miles west of Delmar and at the southwest corner of Delaware and at the south end of the north and south line between Delaware-Maryland.

The mark, a sand stone monument with the coat of arms on the north and south sides of the monument and also on the east and west side. It has a U.S.C.&.G.S. triangulation disk cemented in the top, stamped MD DEL CORNER 1932. The monument is broke at the base and leaning to the south. It has a 12 by 12 foot shelter erected over the monument.

This party has no data on the monuments that are established to the north of BOUNDARY MONUMENT 0. They are two small monuments that project 2 feet above the ground surface. One monument is 3.8 feet north and the other monument is 2.8 feet north-northeast.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MD DEL CORNER BDRY MONUMENT 0 = MIDDLE POINT *
STATE DELAWARE - MARYLAND YEAR 1932 SECOND ORDER

SOURCE G-12731

* BDRY MON 35 (East-West Boundary)
* BDRY MON 0 (North-South Boundary)

	° ' "	ELEVATION
GEODETIC LATITUDE	38 27 35.8698	SCALED 11 METERS
GEODETIC LONGITUDE	75 41 38.4556	

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ = t − α* ° ' "
DE	0700	620,578.26	167,622.63	− 0 10 21
MD	1900	1,173,962.32	230,878.25	+ 0 49 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = t − α FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (from south) ° ' "	PLANE AZIMUTH* (from south) ° ' "	CODE
AZ MK RM 1	261 37 52.0	261 48 13	0700
AN MK RM 1	261 37 52.0	260 48 41	1900

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MD-DEL CORNER (BOUNDARY MONUMENT 0) BENCH MARK ALSO ☐
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Md-Del. Line
RECOVERED BY: Lewis A. Lapine YEAR: 1974 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 6 miles west of Delmar, Delaware
HEIGHT OF TELESCOPE ABOVE STATION MARK 4 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "
Azimuth Mark	W	0.3	mile	0 00 00.00
MD DEL CORNER 1932 RM 4(Trav,Dist)	W	(30.87)	9.411	10 23 11.9
RM 2	S	74.97	22.850	278 33 51.3
RM 3	SW	179.04	(54.571)	339 04 12.6
RM 2 to RM 3		156.30	(47.640)	

The station mark was recovered and found to be leaning to the scuth, reference marks 2,3 and the azimuth mark were recovered and found in good condition as described in 1962.

The station mark, a standard disk stamped MD DEL CORNER 1932, is cemented in a drill hole in the top of Boundary Monument Number 0 or 35-B that projects 30 inches above the ground surface. It has a 12 by 12 foot shelter erected over the monument. It is 2.8 feet south of Monument 35-A, which was established in 1760.

No data available to check the horizontal directions or distance to the marks.

For additional information see description MD DEL CORNER 1932 RM 4.

SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ANDREWS
STATE: Delaware
COUNTY: Sussex
NEAREST TOWN: Delmar, Delaware
QUADRANGLE NO.: 380753
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

NOTE.* 1b 7a
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.6 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
11b	RM 3 (Az. Mk.) (Electronic Dist.)	E		700.764	0	00	00.00
11b	RM 1	SE	81.95	24.976	36	02	14
11b	RM 2	SSW	70.63	21.525	122	35	09
	RM 1 to RM 2		104.83	(31.952)			

Detailed description:

The station is located about 3.6 miles southwest of Ward, Delaware, 2.4 miles east of Delmar and on road right-of-way.

To reach the station from the junction of U. S. Highway 13 and State Road 54 in the east edge of Delmar, go east on State Road 54 for 1.3 miles to powerline pole number 65 and the station on the left, continue east on State Road 54 for 0.4 mile to a side road right and RM 3 (Az. Mk.) on the right.

Station marks are standard disks stamped ANDREWS 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 26 feet north of the centerline of State Road 54 and 5 feet east-southeast of powerline pole number 65. The underground disk is set in the top of an irregluar mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped ANDREWS NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 23 feet south of the centerline of State Road 54 and 5 feet north of a drainage ditch.

Reference mark 2, a standard disk stamped ANDREWS NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 32 feet south of the centerline of State Road 54 and 3 feet east of powerline pole number 48B.

Reference mark 3, a standard disk stamped ANDREWS NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 53 feet east of the center of a paved road, 27 feet south of the centerline of State Road 54, 8 feet northwest of powerline pole number 48B-10 and 4 feet east-southeast NELSON ROAD sign. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: ANDREWS
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2.5 miles east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
ANDREWS RM 3 (AZ MK) 1974	E	(0.45 mile)		0 00′ 00″ 00
RM 1	SE	81.88	24.957	36 02 45
Boundary Monument 26	S	34.03	10.373	88 43 39.5
RM 2	SSW	70.57	21.510	122 36 36

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ANDREWS
STATE: DELAWARE YEAR: 1974 SECOND ORDER

SOURCE: G-15790

GEODETIC LATITUDE:	38° 27′ 17.40627″	ELEVATION: 15.4 METERS
GEODETIC LONGITUDE:	75° 31′ 51.23605″	51 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	467,286.10	165,655.56	− 0 04 16
MD	1900	1,220,696.18	229,720.66	+ 0 55 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
ANDREWS RM 3	273 13 49.5	273 18 05	0700
ANDREWS RM 3	273 13 49.5	272 18 30	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station mark and all reference marks were recovered as described and found in good condition. Boundary Monument 26 was set on this date. For additional information, see the description of Boundary Monument 26.

E-W No. 26, set on line between Boundary Monuments 25 and 35 in 1976, had been disturbed by farm machinery and this station was destroyed.

Additional measured distances:

	meters	feet
BDRY. MON. 26 to RM 1	20.411	66.97
BDRY. MON. 26 to RM 2	14.133	46.37
RM 1 to RM 2	31.949	104.83

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BETHEL
STATE: Del., Md. Line
COUNTY: Sussex Del, Worcester Md.
NEAREST TOWN: Gumboro
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: A. G. Thacker
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.57 METERS.
HEIGHT OF LIGHT ABOVE STATION MARK 1.37 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
1b	SURFACE-STATION MARK,				
7a	UNDERGROUND-STATION MARK				
11b	RM 3 (Az. Mk.)(Electronic Dist.)	W	3506.77	1068.878	0 00 00.00
11b	RM 1	SE	126.81	(38.652)	239 11 47.0
11b	RM 2	SW	91.30	27.831	314 29 43.2

No measuremenrt was made from RM 1 to RM 2 due to a house on line.

Detailed description

The station is located about 5 miles northeast of Pittsville, Maryland, 5 miles northwest of Whaleysville, Maryland and 2 miles southeast of Gumboro, Delaware, on property owned by the Bethel United Methodist Church.

To reach the station from the Ayers Methodist Church in Pittsville, Maryland, go north on State Road 353 for 4.0 miles to a crossroad at the Maryland-Delaware State Line and the junction with Maryland State Road 54, turn right and go east on a paved road for 1.35 miles to a crossroad and Reference Mark 3 on the left. Continue east on the paved road for 0.7 mile to a side road on the left, turn left and go north on a paved road for 0.05 mile to the Bethel United Methodist Church on the left and the station.

Station marks are standard disks stamped BETHEL 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. The underground disk is set in an irregular mass of concrete that is 42 inches below the ground surface. It is 262 feet northwest of the center of the paved road, 71 feet north of the northwest corner of a frame house and near the west end of the church lawn.

Reference mark 1, a standard disk stamped BETHEL NO 1 1974, set in the top of a 12-inch cylindrical concrete monument that is 1 inch below the ground surface. It is 59.3 feet west-northwest of the southwest corner of the church, 2.5 feet east of the northeast corner of the frame house and 2 feet northeast of a powerline pole.

Reference mark 2, a standard disk stamped BETHEL NO 2 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 46 feet west of the northwest corner of the frame house, 44 feet northwest of the southwest corner of the frame house and 4.5 feet northeast of a 16-inch pine tree.

Reference mark 3, a standard disk stamped BETHEL NO 3 1974, set in the top of a 12- inch cylindrical concrete monument that is flush with the ground surface. It is 43 feet northwest of the center of the cross-road, 31 feet west of the center of the paved road going north and 4.5 feet north of a stop sign. This mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BETHEL
STATE: DELAWARE
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

GEODETIC LATITUDE:	38° 27′ 09.53263″	ELEVATION:	13.5 METERS
GEODETIC LONGITUDE:	75 21 23.31216		44 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	517,238.07	164,844.40	+ 0° 02′ 15″
MD	1900	1,270,653.79	229,775.83	+ 1 01 54

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BETHEL RM 3	86° 41′ 26.2″	86° 39′ 11″	0700
BETHEL RM 3	86 41 26.2	85 39 33	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BETHEL
BENCH MARK ALSO ☐
ESTABLISHED BY: L.A.L.
YEAR: 1974
STATE: Delaware
RECOVERED BY:* C.L. Novak
YEAR: 1976
COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 8 miles west of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VG)	W	(0.7 mile)		0 00 00.00
RM 1	SE	126.81	38.652	239 11 47
BOUNDARY MONUMENT 17	SE	(275.25)	83.896	239 42 23.8
RM 2	SW	91.31	27.831	314 29 44

The station and all marks were recovered and found in good condition as described in the 1974 description. The distances and directions to all marks were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number 17 was set at this date and it was intersected from this station, see description thereof.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-77
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BISHOPVILLE
NEAREST TOWN: Bishopville
CHIEF OF PARTY: Lewis A. Lapine
STATE: Del., Md. Line
QUADRANGLE NO.: 380752
YEAR: 1974
COUNTY: Sussex Del, Worcester Md.
DESCRIBED BY: H.S. Murphy

NOTE: 1b
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.44 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1.24 METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
	DICK RM 3 (Az. Mk.)(Elect. Dist.)	E		892.930	0	00	00.00
11b	RM 3 (Az. Mk.) (Electronic Dist)	W		750.334	181	56	19.84
11b	RM 2	WNW	72.53	22.106	213	37	47
11b	RM 1	NE	72.62	22.133	326	14	00

No measurements between the RMs due to trees on line.

The station is located about 2.5 miles east-southeast of Selbyville, 1 mile east-northeast of Bishopville, on road right-of-way and near the Maryland-Delaware State Line.

To reach the station from the Post Office in Bishopville, go northeast on blacktop road for 0.75 mile to State Line Road on the right and reference mark 3 on the left. Turn right and go east on State Line Road for 0.4 mile to the station on the right.

Station mark, a standard disk stamped BISHOPVILLE 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 24 feet northwest of a 16-inch oak tree, 18 feet south-southwest of the center of State Line Road and 3 feet northeast of a powerline pole. No underground disk was established.

Reference mark 1, a standard disk stamped BISHOPVILLE NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 4 feet southeast of a 10-inch oak tree and 22 feet north of the center of the road.

Reference mark 2, a standard disk stamped BISHOPVILLE NO 2 1974 is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 21 feet north of the center of the road, 12 feet west-northwest of a 12-inch oak tree and 4 feet east of a metal witness post.

Reference mark 3, a standard disk stamped BISHOPVILLE NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 49 feet northeast of sign MARYLAND-DELAWARE STATE LINE, 47 feet northwest of the center of intersection and 3 feet southwest of a powerline pole. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BISHOPVILLE
STATE: MARYLAND
YEAR: 1974
SECOND - ORDER
SOURCE: G-15790

	°	′	″		
GEODETIC LATITUDE:	38	27	03.84782	ELEVATION:	5.7 METERS
GEODETIC LONGITUDE:	75	10	38.79216		19 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
MD	1900	1,321,928.32	230,174.18	+ 1 08 38
DE	0700	568,512.83	164,352.63	+ 0 08 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BISHOPVILLE RM 3	91 21 04.6	90 12 27	1900
BISHOPVILLE RM 3	91 21 04.6	91 12 09	0700

RECOVERY NOTE, TRIANGULATION STATION

R

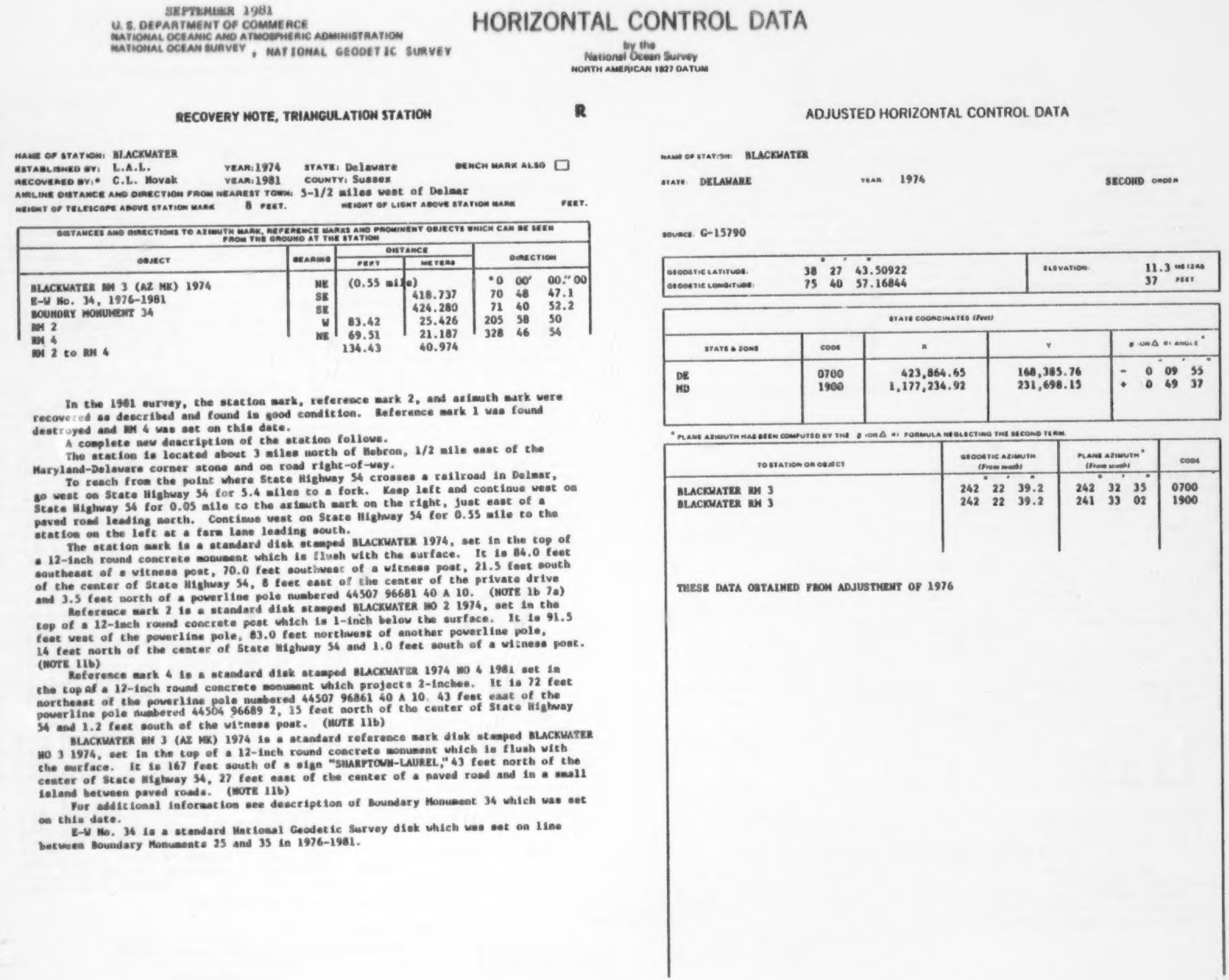
NAME OF STATION: BISHOPVILLE
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile east-southeast of Bishopville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
RM 3 (AZ MK) (VG)	E	(0.4 mile)		0	00	00.00
RM 2	WNW	72.52	22.103	31	40	45
BOUNDARY MONUMENT 7	N	(6.95)	2.118	88	43	03.1
RM 1	NE	72.61	22.131	144	17	56
Unable to measure between RM's						

The station and all marks were recovered and found in good condition as described in the 1974 description. All distances and directions checked the 1974 observations.

The Maryland-Delaware Boundary Monument number 7 was set at this date, see description thereof.



SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BLACKWATER
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 5-1/2 miles west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 8 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
BLACKWATER RM 3 (AZ MK) 1974	NE	(0.55 mile)		°0 00′ 00.″00
E-W No. 34, 1976-1981	SE		418.737	70 48 47.1
BOUNDRY MONUMENT 34	SE		424.280	71 40 52.2
RM 2	W	83.42	25.426	205 58 50
RM 4	NE	69.51	21.187	328 46 54
RM 2 to RM 4		134.43	40.974	

In the 1981 survey, the station mark, reference mark 2, and azimuth mark were recovered as described and found in good condition. Reference mark 1 was found destroyed and RM 4 was set on this date.

A complete new description of the station follows.

The station is located about 3 miles north of Hebron, 1/2 mile east of the Maryland-Delaware corner stone and on road right-of-way.

To reach from the point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 5.4 miles to a fork. Keep left and continue west on State Highway 54 for 0.05 mile to the azimuth mark on the right, just east of a paved road leading north. Continue west on State Highway 54 for 0.55 mile to the station on the left at a farm lane leading south.

The station mark is a standard disk stamped BLACKWATER 1974, set in the top of a 12-inch round concrete monument which is flush with the surface. It is 84.0 feet southeast of a witness post, 70.0 feet southwest of a witness post, 21.5 feet south of the center of State Highway 54, 8 feet east of the center of the private drive and 3.5 feet north of a powerline pole numbered 44507 96681 40 A 10. (NOTE 1b 7a)

Reference mark 2 is a standard disk stamped BLACKWATER NO 2 1974, set in the top of a 12-inch round concrete post which is 1-inch below the surface. It is 91.5 feet west of the powerline pole, 83.0 feet northwest of another powerline pole, 14 feet north of the center of State Highway 54 and 1.0 feet south of a witness post. (NOTE 11b)

Reference mark 4 is a standard disk stamped BLACKWATER 1974 NO 4 1981 set in the top of a 12-inch round concrete monument which projects 2-inches. It is 72 feet northeast of the powerline pole numbered 44507 96861 40 A 10. 43 feet east of the powerline pole numbered 44504 96689 2, 15 feet north of the center of State Highway 54 and 1.2 feet south of the witness post. (NOTE 11b)

BLACKWATER RM 3 (AZ MK) 1974 is a standard reference mark disk stamped BLACKWATER NO 3 1974, set in the top of a 12-inch round concrete monument which is flush with the surface. It is 167 feet south of a sign "SHARPTOWN-LAUREL," 43 feet north of the center of State Highway 54, 27 feet east of the center of a paved road and in a small island between paved roads. (NOTE 11b)

For additional information see description of Boundary Monument 34 which was set on this date.

E-W No. 34 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BLACKWATER
STATE: DELAWARE YEAR 1974 SECOND ORDER
SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE:	38 27 43.50922	ELEVATION:	11.3 METERS
GEODETIC LONGITUDE:	75 40 57.16844		37 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE *
DE	0700	423,864.65	168,385.76	− 0 09 55
MD	1900	1,177,234.92	231,698.15	+ 0 49 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH * (From south) ° ′ ″	CODE
BLACKWATER RM 3	242 22 39.2	242 32 35	0700
BLACKWATER RM 3	242 22 39.2	241 33 02	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BRADLEY
STATE: Maryland
COUNTY: Wicomico
NEAREST TOWN: Delmar, Delaware
QUADRANGLE NO.: 380753
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.6 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS
1b 7a					
11b	RM 3 (Az. Mk.)	S	0.3	mile	0 00 00.00
11b	RM 2	S	116.62	(35.546)	05 04 19.3
11b	RM 1	NE	55.49	16.915	251 23 29.0
	RM 1 to RM 2		147.67	(45.010)	

Detailed description:

The station is located about 4.6 miles west of Delmar, Delaware, 3 miles north-northeast of Hebron, Maryland and on land owned by Mrs. Myra Bradley, Route 2, Delmar, Delaware, Telephone number 896-9456.

To reach the station from the railroad crossing and State Road 54 in Delmar, Delaware, go west on State Road 54 for 4.0 miles to a paved crossroad. Turn left and go southwest on a paved road for 0.55 mile to a Y-fork, take the left fork and go south on a paved road for 0.3 mile to Mrs. Myra Bradley house and the station on the right. Continue south on the paved road for 0.3 mile to RM 3 (Az. Mk.) in the northeast angle of a paved T-road.

Station marks are standard disks stamped BRADLEY 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 61 feet east of the northeast corner of Mrs. Bradley house, 29 feet northwest of the center of the paved road, 8 feet west of a sign, SPRING HILL LANE, and 6 feet northeast of powerline pole number 122. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped BRADLEY NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 35 feet north of a 24-inch maple tree and 14 feet southeast of the center of the paved road.

Reference mark 2, a standard disk stamped BRADLEY NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 55 feet south of a 14-inch cottonwood tree and 13 feet west-northwest of the center of the paved road.

Reference mark 3, a standard disk stamped BRADLEY NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 40 feet east of the center of the paved road, 19 feet north of the center of a paved road and 3 feet east of a stop sign. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: BRADLEY
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4-1/2 miles west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
BRADLEY AZI MK 2 (EDM)	S		492.958	0° 00′ 00.″00
RM 2	S	116.50	35.508	5 27 37
E-W No. 33, 1976-1981	NNW	81.45	24.826	135 19 15.8
BOUNDARY MONUMENT 33	NE	32.91	10.032	241 15 50.2
RM 1	NE	55.21	16.831	251 46 58

BRADLEY TO BRADLEY AZ MK 2 (Polaris azimuth) = 12° 51′ 59.4″

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BRADLEY
STATE: MARYLAND YEAR: 1974 SECOND-ORDER
SOURCE: G-15790

GEODETIC LATITUDE:	38° 27′ 31.″78570	ELEVATION:	11.9 METERS
GEODETIC LONGITUDE:	75 39 47.50728		39 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR $\Delta\alpha$) ANGLE*
MD	1900	1,182,792.60	230,592.89	+ 0° 50′ 21″
DE	0700	429,402.49	167,184.38	− 0 09 12

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR $\Delta\alpha$) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BRADLEY RM 3	13° 14′ 33.″8	12° 24′ 13″	1900
BRADLEY RM 3	13 14 33.8	13 23 46	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station mark and both reference marks were recovered as described and found in good condition. The 1974 azimuth mark (RM 3) was found destroyed and a new azimuth mark and Boundary Monument 33 were established on this date.

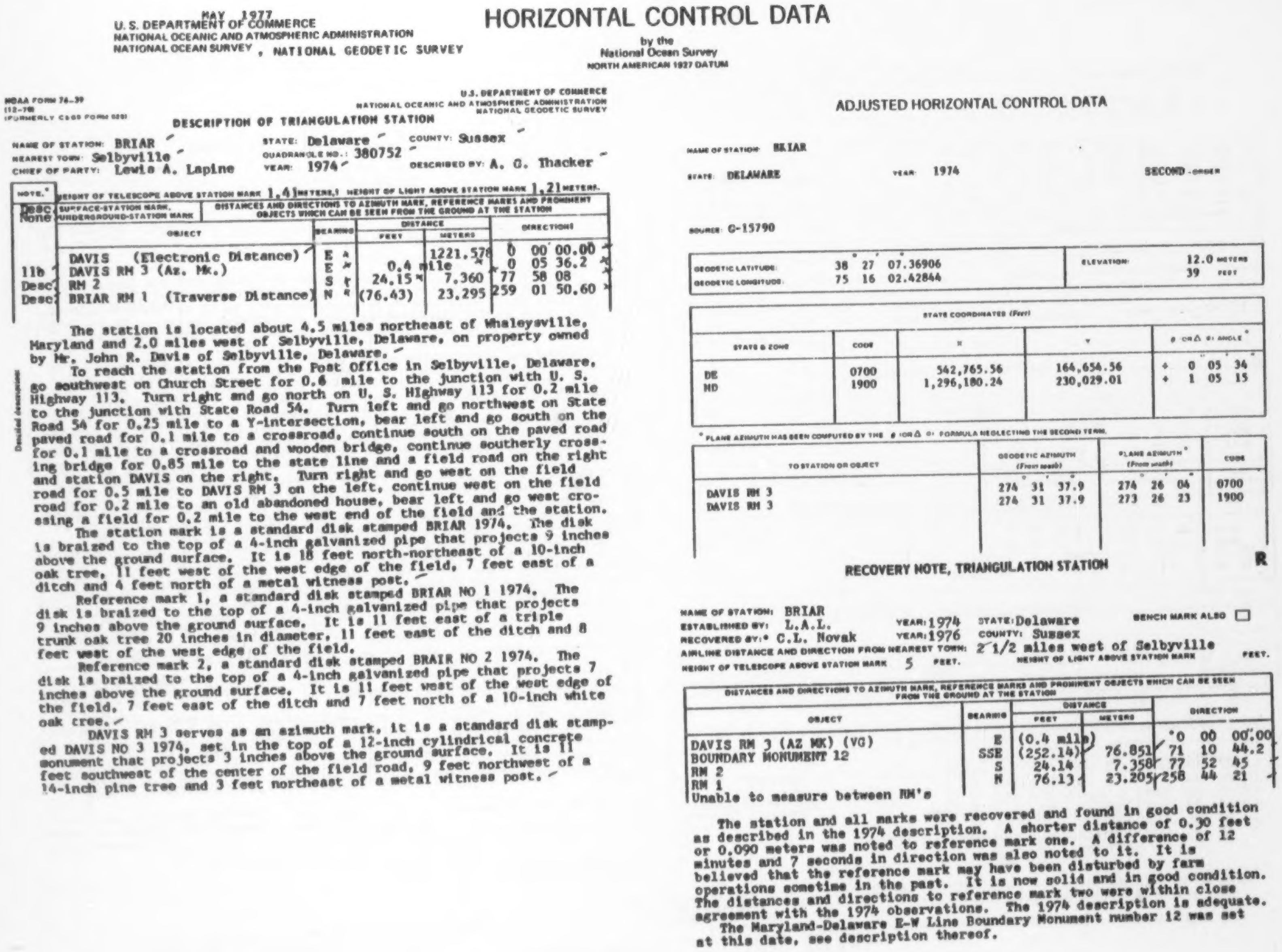
The azimuth mark is a standard National Geodetic Survey azimuth mark disk stamped BRADLEY NO. 2 1981, set in the top of a 10-inch round concrete monument which projects 9-inches. It is 43.5 feet east of the center of Spring Hill Lane, 15.3 feet south of the center of Waller Road, 12.8 feet east northeast of a telephone underground cable marker post numbered 1, 2.1 feet west of a powerline pole numbered 45022 96401 114 and 1.1 feet northeast of a witness post.

For additional information on Boundary Monument 33, see description thereof.

E-W No. 33 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

Additional measured distances are as follows:

	meters	feet
RM 1 to RM 2	44.988	147.60
BDRY. MON. 33 to RM 1	7.206	23.65
BDRY. MON. 33 to RM 2	41.977	137.72
BDRY. MON. 33 to E-W No. 33	35.665	117.01
E-W No. 33 to RM 1	29.222	95.88



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BRIAR
STATE: Delaware
COUNTY: Sussex
NEAREST TOWN: Selbyville
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: A. G. Thacker

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.4 METERS, HEIGHT OF LIGHT ABOVE STATION MARK 1.21 METERS.

NOTE.* Desc None	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS
	DAVIS (Electronic Distance)	E		1221.578	0 00 00.00
11b	DAVIS RM 3 (Az. Mk.)	E	0.4 mile		0 05 36.2
Desc	RM 2	S	24.15	7.360	77 58 08
Desc	BRIAR RM 1 (Traverse Distance)	N	(76.43)	23.295	259 01 50.60

Detailed description

The station is located about 4.5 miles northeast of Whaleysville, Maryland and 2.0 miles west of Selbyville, Delaware, on property owned by Mr. John R. Davis of Selbyville, Delaware.

To reach the station from the Post Office in Selbyville, Delaware, go southwest on Church Street for 0.6 mile to the junction with U. S. Highway 113. Turn right and go north on U. S. Highway 113 for 0.2 mile to the junction with State Road 54. Turn left and go northwest on State Road 54 for 0.25 mile to a Y-intersection, bear left and go south on the paved road for 0.1 mile to a crossroad, continue south on the paved road for 0.1 mile to a crossroad and wooden bridge, continue southerly crossing bridge for 0.85 mile to the state line and a field road on the right and station DAVIS on the right. Turn right and go west on the field road for 0.5 mile to DAVIS RM 3 on the left, continue west on the field road for 0.2 mile to an old abandoned house, bear left and go west crossing a field for 0.2 mile to the west end of the field and the station.

The station mark is a standard disk stamped BRIAR 1974. The disk is braized to the top of a 4-inch galvanized pipe that projects 9 inches above the ground surface. It is 18 feet north-northeast of a 10-inch oak tree, 11 feet west of the west edge of the field, 7 feet east of a ditch and 4 feet north of a metal witness post.

Reference mark 1, a standard disk stamped BRIAR NO 1 1974. The disk is braized to the top of a 4-inch galvanized pipe that projects 9 inches above the ground surface. It is 11 feet east of a triple trunk oak tree 20 inches in diameter, 11 feet east of the ditch and 8 feet west of the west edge of the field.

Reference mark 2, a standard disk stamped BRAIR NO 2 1974. The disk is braized to the top of a 4-inch galvanized pipe that projects 7 inches above the ground surface. It is 11 feet west of the west edge of the field, 7 feet east of the ditch and 7 feet north of a 10-inch white oak tree.

DAVIS RM 3 serves as an azimuth mark, it is a standard disk stamped DAVIS NO 3 1974, set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 11 feet southwest of the center of the field road, 9 feet northwest of a 14-inch pine tree and 3 feet northeast of a metal witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BRIAR
STATE: DELAWARE
YEAR: 1974
SECOND-ORDER

SOURCE: G-15790

GEODETIC LATITUDE:	38° 27′ 07.36906″	ELEVATION: 12.0 METERS
GEODETIC LONGITUDE:	75 16 02.42844	39 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE*
DE	0700	542,765.56	164,654.56	+ 0 05 34
MD	1900	1,296,180.24	230,029.01	+ 1 05 15

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
DAVIS RM 3	274° 31′ 37.9″	274° 26′ 04″	0700
DAVIS RM 3	274 31 37.9	273 26 23	1900

RECOVERY NOTE, TRIANGULATION STATION

R

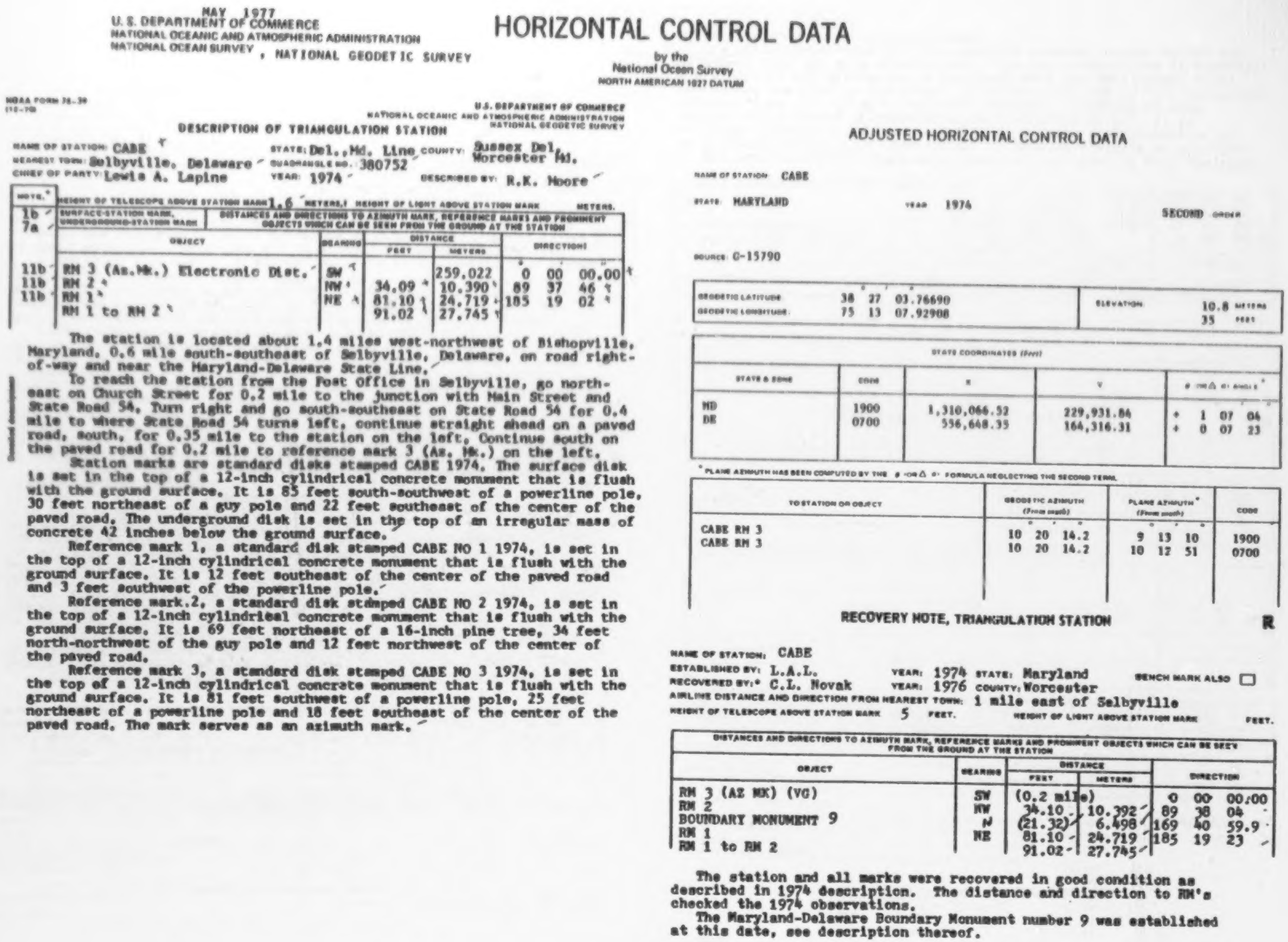
NAME OF STATION: BRIAR
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
BENCH MARK ALSO ☐
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 1/2 miles west of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
DAVIS RM 3 (AZ MK) (VG)	E	(0.4 mile)		0 00 00.00
BOUNDARY MONUMENT 12	SSE	(252.14)	76.851	71 10 44.2
RM 2	S	24.14	7.358	77 52 45
RM 1	N	76.13	23.205	258 44 21
Unable to measure between RM's				

The station and all marks were recovered and found in good condition as described in the 1974 description. A shorter distance of 0.30 feet or 0.090 meters was noted to reference mark one. A difference of 12 minutes and 7 seconds in direction was also noted to it. It is believed that the reference mark may have been disturbed by farm operations sometime in the past. It is now solid and in good condition. The distances and directions to reference mark two were within close agreement with the 1974 observations. The 1974 description is adequate.

The Maryland-Delaware E-W Line Boundary Monument number 12 was set at this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-30
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CABE
STATE: Del.,Md. Line
COUNTY: Sussex Del, Worcester Md.
NEAREST TOWN: Selbyville, Delaware
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.6 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
1b 7a	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
11b	RM 3 (Az.Mk.) Electronic Dist.	SW		259.022	0 00 00.00
11b	RM 2	NW	34.09	10.390	89 37 46
11b	RM 1	NE	81.10	24.719	185 19 02
	RM 1 to RM 2		91.02	27.745	

The station is located about 1.4 miles west-northwest of Bishopville, Maryland, 0.6 mile south-southeast of Selbyville, Delaware, on road right-of-way and near the Maryland-Delaware State Line.

To reach the station from the Post Office in Selbyville, go northeast on Church Street for 0.2 mile to the junction with Main Street and State Road 54. Turn right and go south-southeast on State Road 54 for 0.4 mile to where State Road 54 turns left, continue straight ahead on a paved road, south, for 0.35 mile to the station on the left. Continue south on the paved road for 0.2 mile to reference mark 3 (Az. Mk.) on the left.

Station marks are standard disks stamped CABE 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 85 feet south-southwest of a powerline pole, 30 feet northeast of a guy pole and 22 feet southeast of the center of the paved road. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped CABE NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 12 feet southeast of the center of the paved road and 3 feet southwest of the powerline pole.

Reference mark.2, a standard disk stamped CABE NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 69 feet northeast of a 16-inch pine tree, 34 feet north-northwest of the guy pole and 12 feet northwest of the center of the paved road.

Reference mark 3, a standard disk stamped CABE NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 81 feet southwest of a powerline pole, 25 feet northeast of a powerline pole and 18 feet southeast of the center of the paved road. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CABE
STATE: MARYLAND
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

GEODETIC LATITUDE	38 27 03.76690	ELEVATION	10.8 METERS
GEODETIC LONGITUDE	75 13 07.92908		35 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE*
MD	1900	1,310,066.52	229,931.84	+ 1 07 04
DE	0700	556,648.35	164,316.31	+ 0 07 23

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
CABE RM 3	10 20 14.2	9 13 10	1900
CABE RM 3	10 20 14.2	10 12 51	0700

RECOVERY NOTE, TRIANGULATION STATION

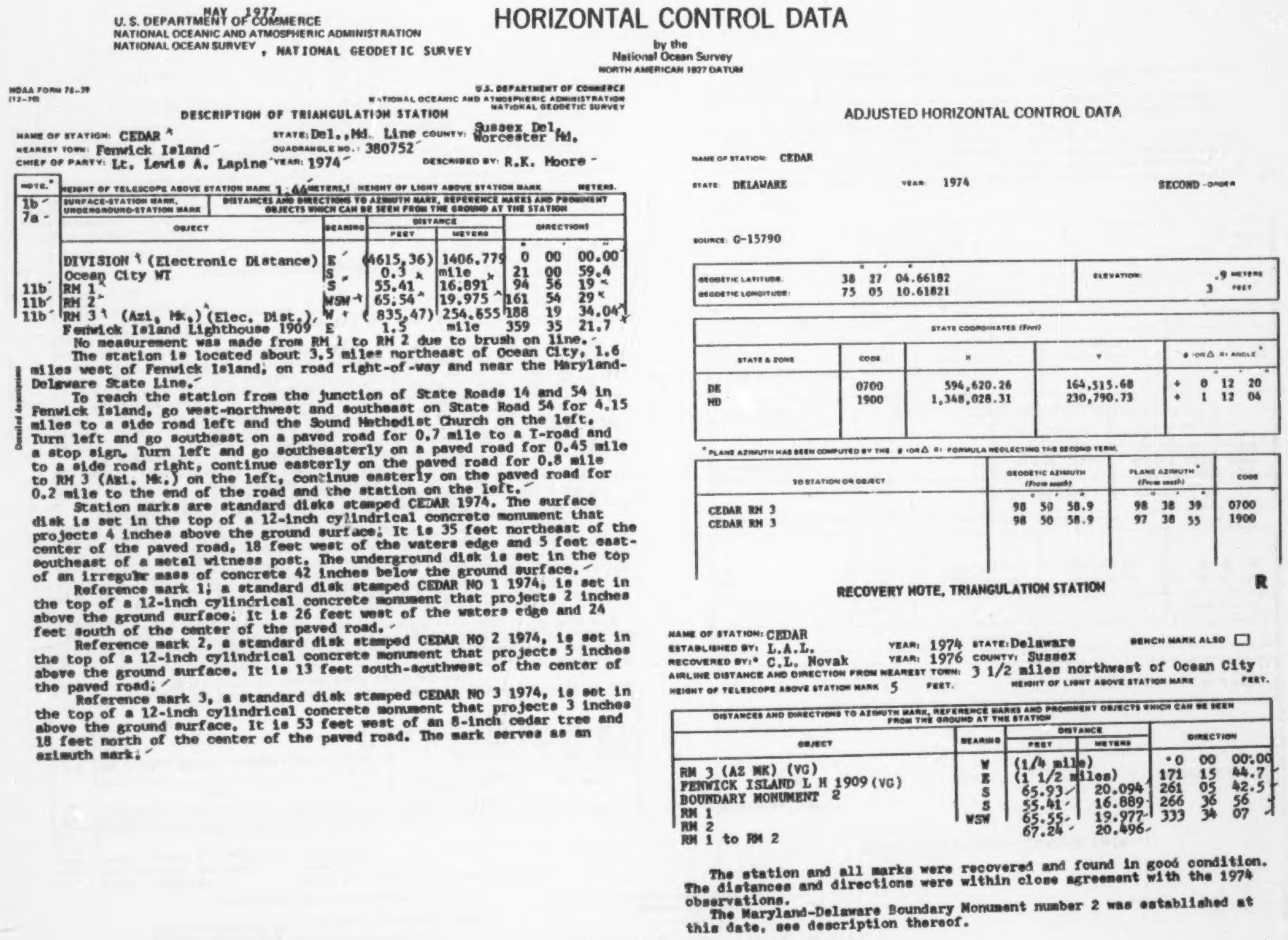
R

NAME OF STATION: CABE
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile east of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VG)	SW	(0.2 mile)		0 00 00.00
RM 2	NW	34.10	10.392	89 38 04
BOUNDARY MONUMENT 9	N	(21.32)	6.498	169 40 59.9
RM 1	NE	81.10	24.719	185 19 23
RM 1 to RM 2		91.02	27.745	

The station and all marks were recovered in good condition as described in 1974 description. The distance and direction to RM's checked the 1974 observations.

The Maryland-Delaware Boundary Monument number 9 was established at this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CEDAR
STATE: Del., Md. Line
COUNTY: Sussex Del., Worcester Md.
NEAREST TOWN: Fenwick Island
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lt. Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.44 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK						
1b 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
	DIVISION (Electronic Distance)	E	(4615.36)	1406.779	0	00	00.00
	Ocean City WT	S	0.3	mile	21	00	59.4
11b	RM 1	S	55.41	16.891	94	56	19
11b	RM 2	WSW	65.54	19.975	161	54	29
11b	RM 3 (Azi. Mk.) (Elec. Dist.)	W	(835.47)	254.655	188	19	34.04
	Fenwick Island Lighthouse 1909	E	1.5	mile	359	35	21.7

Detailed description

No measurement was made from RM 1 to RM 2 due to brush on line.

The station is located about 3.5 miles northeast of Ocean City, 1.6 miles west of Fenwick Island, on road right-of-way and near the Maryland-Delaware State Line.

To reach the station from the junction of State Roads 14 and 54 in Fenwick Island, go west-northwest and southeast on State Road 54 for 4.15 miles to a side road left and the Sound Methodist Church on the left. Turn left and go southeast on a paved road for 0.7 mile to a T-road and a stop sign. Turn left and go southeasterly on a paved road for 0.45 mile to a side road right, continue easterly on the paved road for 0.8 mile to RM 3 (Azi. Mk.) on the left, continue easterly on the paved road for 0.2 mile to the end of the road and the station on the left.

Station marks are standard disks stamped CEDAR 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that projects 4 inches above the ground surface. It is 35 feet northeast of the center of the paved road, 18 feet west of the waters edge and 5 feet east-southeast of a metal witness post. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped CEDAR NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 26 feet west of the waters edge and 24 feet south of the center of the paved road.

Reference mark 2, a standard disk stamped CEDAR NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 5 inches above the ground surface. It is 13 feet south-southwest of the center of the paved road.

Reference mark 3, a standard disk stamped CEDAR NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 53 feet west of an 8-inch cedar tree and 18 feet north of the center of the paved road. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CEDAR
STATE: DELAWARE
YEAR: 1974
SECOND-ORDER

SOURCE: G-15790

	°	′	″	
GEODETIC LATITUDE:	38	27	04.66182	ELEVATION: .9 METERS
GEODETIC LONGITUDE:	75	05	10.61821	3 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	594,620.26	164,515.68	+ 0 12 20
MD	1900	1,348,028.31	230,790.73	+ 1 12 04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
CEDAR RM 3	98 50 58.9	98 38 39	0700
CEDAR RM 3	98 50 58.9	97 38 55	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: CEDAR
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 1/2 miles northwest of Ocean City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
RM 3 (AZ MK) (VG)	W	(1/4 mile)		0	00	00.00
FENWICK ISLAND L H 1909 (VG)	E	(1 1/2 miles)		171	15	44.7
BOUNDARY MONUMENT 2	S	65.93	20.094	261	05	42.5
RM 1	S	55.41	16.889	266	36	56
RM 2	WSW	65.55	19.977	333	34	07
RM 1 to RM 2		67.24	20.496			

The station and all marks were recovered and found in good condition. The distances and directions were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number 2 was established at this date, see description thereof.

SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CONNELLY STATE: Maryland COUNTY: Wicomico
NEAREST TOWN: Delmar, Delaware QUADRANGLE NO.: 380753
CHIEF OF PARTY: Lewis A. Lapine YEAR: 1974 DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
1b 7a	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″
11b	RM 3 (Az. Mk.)(Electronic Dist.)	W		670.528	0 00 00.00
11b	RM 2	NW	49.63	15.095	54 12 15.2
11b	RM 1	E	54.34	16.562	179 51 26.0
	RM 1 to RM 2		92.41	28.170	

Detailed description:

The station is located about 1.3 miles west of Delmar, Delaware, 0.6 mile south of State Road 54 and on road right-of-way.

To reach the station from the railroad crossing and State Road 54 in Delmar, go west on State Road 54 for 0.2 mile to a Y-fork, bear left and go west on a paved road for 0.35 mile to a Y-fork, bear right and continue west on a paved road for 0.65 mile to powerline pole number 40 F-20 and the station on the left.

Station marks are standard disks stamped CONNELLY 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 76 feet west of a driveway, 21 feet south of the center of the paved road, 4 feet south of powerline pole number 40 F-20 and 4 feet west-southwest of a metal witness post. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped CONNELLY NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 22 feet west-southwest of the driveway and 21 feet south of the center of the paved road.

Reference mark 2, a standard disk stamped CONNELLY NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 5 inches above the ground surface. It is 18 feet north of the center of the paved road and 18 feet east-southeast of a 14-inch oak tree.

Reference mark 3, a standard disk stamped CONNELLY NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 6 inches above the ground surface. It is 16 feet south of the center of the paved road, 4 feet south-southwest of powerline pole number 28 and 4 feet south-southwest of a metal witness post. The mark serves as an azimuth mark.

To reach reference mark 3 from the station, go west on the paved road for 0.4 mile to the mark on the left.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: CONNELLY
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1-1/4 miles west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
CONNELLY RM 3 (AZ MK) 1974	W	(EDM)	670.503	°0 00′ 00.″00
RM 2	NW	49.51	15.091	54 12 08
E-W No. 30, 1976-1981	NNW	(EDM)	59.219	69 13 15.1
CONNELLY 2	NNE	32.67	9.958	102 46 41.3
RM 1 (destroyed)	E	54.34	16.562	179 51 18

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CONNELLY
STATE: MARYLAND YEAR 1974 SECOND ORDER
SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE:	38 27 23.80762	ELEVATION:	14.2 METERS
GEODETIC LONGITUDE:	75 36 08.00305		47 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,200,263.30	230,047.43	+ 0 52 38
DE	0700	446,861.53	166,336.36	- 0 06 55

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
CONNELLY RM 3	92 32 53.0	91 40 15	1900
CONNELLY RM 3	92 32 53.0	92 39 48	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station mark was found disturbed and out of position. The subsurface disk was found in good condition after the surface mark was removed. RM 1 was found in fair condition but it is possible that it had been disturbed. Both the station mark and RM 1 are in immediate danger of being destroyed. All other marks at the station were recovered as described previously.

A new station CONNELLY 2 and BOUNDARY MONUMENT 30 were established on this date. For additional information see descriptions of CONNELLY 2 and BOUNDARY MONUMENT 30.

E-W No. 30 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

SEPTEMBER 1981
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CONNELLY 2
STATE: Delaware
COUNTY: Sussex
NEAREST TOWN: Delmar
QUADRANGLE NO.: 380753
CHIEF OF PARTY: C.L. Novak
YEAR: 1981
DESCRIBED BY: R.G. Poust

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE		DIRECTION		
			FEET	METERS	°	′	″
1b 7a	CONNELLY RM 3 (AZ MK) 1974	W		672.783	0	00	00.00
11b	RM 2	W	37.12	11.314	13	43	59
	E-W No. 30 1976-1981	NNW	168.03	51.215	63	52	30.4
	CONNELLY 1974	SSW	32.67	9.958	283	36	21.9
	BOUNDARY MONUMENT 30	SW	21.25	6.476	291	10	22.9
	RM 2 to CONNELLY 1974		49.51	15.091			
	RM 2 to BOUNDARY MONUMENT 30		40.32	12.287			

Detailed description

The station is located about 7-1/2 miles north-northwest of Salisbury, 1-1/4 miles west of Delmar and 1/2 mile south of State Highway 54. It is on road right-of-way.

To reach from a point where State Highway 54 crosses a railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and go west on Waller Road for 0.35 mile to a fork. Keep right and go west on a paved road for 0.75 mile to the station on the right.

The station surface mark is a standard disk stamped CONNELLY 2 1981, set in the top of a 10-inch round concrete monument which is 1-inch below the surface. The sub-surface mark is a standard disk stamped CONNELLY 2 1981, set in a 6-inch mass of concrete, 36 inches below the surface. They are 65.5 feet northwest of the west edge of a 48-inch culvert, 30.5 feet north-northeast of a witness post, 28.9 feet north-northeast of a powerline pole numbered 46798 96468, 13.5 feet southwest of a 16-inch oak tree with a triangular blaze, 10 feet north of the center of the road and 4.6 feet south of a witness post.

Reference mark 2 is a standard disk stamped CONNELLY NO 2 1974, set in the top of a 12-inch round concrete post which projects 2-inches. It is 50.1 feet northwest of the witness post which is near old station CONNELLY, 45.4 feet northwest of the powerline pole, 35.7 feet west of the witness post which is near this station and 18.7 feet north of the center of the road.

Boundary Monument 30 and E-W No. 30 will serve as reference marks for this station. E-W No. 30 is a standard National Geodetic Survey disk set on line between Boundary Monuments 25 and 35 in 1976-1981.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CONNELLY 2
STATE: DELAWARE
YEAR: 1981
SECOND - ORDER

SOURCE: G-16489

GEODETIC LATITUDE:	38° 27′ 24.″11911	ELEVATION:	14.0 METERS
GEODETIC LONGITUDE:	75 36 07.89453		46 FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
				° ′ ″
DE	0700	446,870.22	166,367.85	- 0 06 55
MD	1900	1,200,271.45	230,079.07	+ 0 52 38

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	
CONNELLY RM 3	91 43 15.4	91 50 11	0700
CONNELLY RM 3	91 43 15.4	90 50 37	1900

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
12-70

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CYPRESS STATE: Maryland COUNTY: Worcester
NEAREST TOWN: Whaleysville, Maryland QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine YEAR: 1974 DESCRIBED BY: A. G. Thacker

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.53 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE.*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
1b 7a					
11b	RM 3 (Az. Mk.)	E	0.3 mile		0 00 00.00
11b	RM 1	SE	33.92	10.340	52 22 44
11b	RM 2	SW	41.48	12.644	149 09 46
	RM 1 to RM 2		56.63	17.260	

The station is located about 4.7 miles west of Selbyville, Delaware and 3.5 miles north of Whaleysville, Maryland and on property owned by Delaware Wildlands Inc., Mr. Edmond Harvey, President. 1011 Washington Street, Wilmington, Delaware 19801. Phone 658-0204.

To reach the station from the Post Office in Selbyville, Delaware, go southwest on Church Street for 0.6 mile to the junction with U. S. Highway 113. Turn left and go south on U. S. Highway 113 for 0.3 mile to a paved crossroad, just after crossing the State Line. Turn right and go westerly on the paved road for 1.05 mile to a crossroad. Continue westerly on the paved road for 0.6 mile to a T-road. Turn right and go northwest on a paved road for 1.25 miles to where the road makes a sharp curve to the left. Here bear left and go south following the paved road for 0.5 mile to a side road on the right, turn right and go west on a sand road for 0.75 mile to sand side road on the left, continue westerly on the sand road for 0.15 mile to Reference Mark 3 on the right, continue westerly on the sand road for 0.25 mile to a wooden bridge, cross bridge continue westerly on the sand road for 0.05 mile to the station on the right.

Station marks are standard disks stamped CYPRESS 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 35 feet north of a sign reading "CYPRESS SWAMP 1200 ACRES CONSERVATION AREA DELAWARE WILDLANDS INC. NON PROFIT," 21 feet northwest of the sand road and 4.5 feet south-southeast of a metal witness post.

Reference mark 1, a standard disk stamped CYPRESS NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 12 feet southeast of the sand road,7 feet northwest of a canal ditch.

Reference mark 2, a standard disk stamped CYPRESS NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 20 feet north-northwest of the sand road, 14 feet southwest of the sign and 2.7 feet southeast of a 4-inch pine tree.

Reference mark 3, a standard disk stamped CYPRESS NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 29 feet north-northwest of the sand road and 8 feet north-northwest of a metal witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CYPRESS
STATE: MARYLAND YEAR: 1974 SECOND ORDER
SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE:	38 26 43.46008	ELEVATION:	11.2 METERS
GEODETIC LONGITUDE:	75 10 48.38594		37 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,283,025.02	227,363.58	+ 1 03 31
DE	0700	529,565.81	162,217.81	+ 0 03 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
CYPRESS RM 3	268 46 08.2	267 42 37	1900
CYPRESS RM 3	268 46 08.2	268 42 17	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: CYPRESS
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1977 COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles southeast of Gumboro
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZI MK)	SE	(0.3 mile)		0 00 00.00
RM 1	S	33.92	10.339	52 19 24
RM 2	W	41.46	12.639	149 10 18
BOUNDARY MONUMENT 14	N	(2299.37)	700.850	271 59 43.9
RM 1 to RM 2		56.62	17.257	

The station and all marks were recovered and found in good condition as previously described.

The Maryland-Delaware Boundary Monument number 14 was established 700.85 meters north of this station at this date. See description thereof.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DAVIS
STATE: Maryland-Delaware State Line
COUNTY: Worcester-Sussex Line
NEAREST TOWN: Selbyville, Delaware
QUADRANGLE NO.: 380752
CHIEF OF PARTY: L.A. Lapine
YEAR: 1974
DESCRIBED BY: H.S. Murphy

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.56 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK				
1b 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
	BRIAR (Electronic Distance)	N		1221.578	00 00 00.0
11b	RM 1 (Tension 5 kgs.)	N	26.42	8.053	81 13 39.7
11b	RM 2 (Tension 5 kgs.)	WSW	32.24	9.826	349 13 56.1
11b	RM 3 (Az. Mk.)	W	0.5 mile		359 57 43.1
	RM 1 to RM 2		42.36	12.913	

The station is located about 4 3/4 miles northeast of Whaleysville, Maryland, 1 mile west of Selbyville, Delaware and on the property of Mr. Donald Hudson, Route 2, Box 12 A, Selbyville, Delaware.

To reach the station from the post office in Selbyville, Delaware, go southwest on Church Street for 0.25 mile to a railroad crossing. Continue southwest on Church Street for 0.35 mile to the junction of US Highway 113. Turn right and go north on US Highway 113 for 0.2 mile to the junction of State Highway 54. Turn left and go northwest on State Highway 54 for 0.25 mile to a Y in road. Turn left and go south on paved road for 0.2 mile to a T-road junction. Turn left and go southwest on paved road for 0.85 mile to the station on the right.

To reach the reference mark 3 (Az. Mk.) from the station, go west on sand road for 0.5 mile to the mark on the left.

The station mark, a standard disk stamped DAVIS 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 36 feet west of the junction of sand roads, 34 feet south-southeast of a 30-inch gum tree with triangle blaze, 26 feet northeast of a 20-inch gum tree, 12 feet south of the center of a sand road and 9 feet northeast of a metal witness post with sign.

Reference mark 1, a standard disk stamped DAVIS NO 1 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 18 feet west of a 30-inch gum tree with triangle blaze, and 14 feet west of a sand road.

Reference mark 2, a standard disk stamped DAVIS NO 2 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 26 feet west of a metal witness post and 17 feet south of the center of a sand road.

Reference mark 3 (Az.Mk.), a standard disk stamped DAVIS NO 3 1974, set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 11 feet southwest of the center of a field road, 9 feet northwest of a 14-inch pine tree and 3 feet northeast of a metal witness post with sign.

The underground disk for the station mark is set in the top of an irregular mass of concrete 42 inches below the surface of the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DAVIS
STATE: MARYLAND
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

GEODETIC LATITUDE:	38 27 04.30333	ELEVATION:	12.0 METERS
GEODETIC LONGITUDE:	75 15 12.20147		39 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
MD	1900	1,300,181.10	229,795.08	+ 1 05 46
DE	0700	546,761.83	164,351.20	+ 0 06 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
DAVIS RM 3	94 24 16.0	93 18 30	1900
DAVIS RM 3	94 24 16.0	94 18 11	0700

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: DAVIS
ESTABLISHED BY: L.A.L.
YEAR: 1974
STATE: Maryland
BENCH MARK ALSO ☐
RECOVERED BY: *C.L. Novak
YEAR: 1976
COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile west of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VG)	W	(0.5 mile)		0 00 00:00
RM 1	N	26.41	8.050	81 16 17
BOUNDARY MONUMENT 11	N	(27.42)	8.359	86 09 46.4
RM 2	WSW	32.21	9.819	349 15 43
RM 1 to RM 2		42.37	12.914	
RM 1 to MONUMENT 11		2.52	0.769	

The station and all marks were recovered and found in good condition as described in the 1974 description. A difference of 2 minutes and 35 seconds in direction was noted to reference mark 1. A difference of 1 minute and 47 seconds in direction was noted to reference mark 2. A difference of 0.03 foot or 0.007 meter was noted to reference mark 2. All other distances and directions agreed with the previous observations.

The Maryland-Delaware Boundary Monument number 11 was established at this date, see description thereof.

SEPTEMBER 1981

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DELMAR RM 4 STATE: Delaware COUNTY: Sussex
NEAREST TOWN: Delmar QUADRANGLE NO.: 380753
CHIEF OF PARTY: L.A. Lapine YEAR: 1974 DESCRIBED BY: H.S. Murphy

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.7 METERS HEIGHT OF LIGHT ABOVE STATION MARK 34.3 METERS

NOTE*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS
11b Desc	SURFACE-STATION MARK, UNDERGROUND-STATION MARK — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	LINE 1932				00° 00′ 00.0″
11b	DELMAR 1934 RM 5 (Tension 5 kgs)	NE	86.43	26.345	312 07 20
1a 7a	DELMAR 1934 (Electronic Dist.)	NE	(291.46)	88.846	337 52 57.74

The station is located in the west edge of Delmar, Delaware and on the property of Mrs. Lucy Sparrow, Box 192, Delmar, Delaware.

To reach the station from the railroad crossing and State Highway 54 in Delmar, Delaware, go west on State Highway 54 for 0.3 mile to a reverse Y and the station on the right as described.

The station is a standard reference mark disk stamped DELMAR NO 4 1934 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 107 feet southeast of the intersection of State Highway 54 and a paved road, 43 feet northeast of the center of State Highway 54 and 39 feet south of the center of the paved road. The underground disk is a standard disk stamped DELMAR NO 4 1934 1974, set in the top of an irregular mass of concrete 42 inches below the ground surface.

DELMAR 1934 RM 5, a standard reference mark disk stamped DELMAR NO 5 1934 1974, set in the top of a cylindrical concrete monument that is flush with the ground surface. It is 17 feet north of the center of the paved road, 13 feet east of a sign post with sign "SHARPTOWN" attached and 1.8 feet south-southwest of a powerline pole number 3 R.

DELMAR 1934, a standard disk stamped DELMAR 1934, set in the top of a 12-inch square concrete monument that is flush with the ground surface. It is 34 feet north of the center of the paved road, 21 feet northwest of a powerline pole number 3 Q, 8.6 feet south of a 12-inch maple tree and 3.5 feet south-southwest of a metal witness post with sign. The underground disk is assumed to be as described previously. (Note 1a 7a)

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: DELMAR RM 4
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1974 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: In west part of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 5	NE	86.43	26.344	0° 00′ 00.00″
RM 6	ENE	303.7	(92.57)	18 34 09
DELMAR 1934	ENE	291.47	(88.840)	25 45 37
RM 5 to DELMAR 1934		216.97	(66.132)	
RM 6 to DELMAR 1934		39.28	11.975	

The station was recovered and found in good condition as described in the previous 1974 description. The reference mark 5, for triangulation station DELMAR 1934, will be destroyed by construction in the near future. A new reference mark 6 was established at this date to replace the subject marker. The new reference mark 6 was intersected from this station. The new reference mark is described in the description for triangulation station DELMAR 1934. The distances and directions to all reference marks were within close agreement with the previous description.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION DELMAR RM 4
STATE DELAWARE YEAR 1974 SECOND ORDER
SOURCE G-15790

GEODETIC LATITUDE	38° 27′ 24.81947″	ELEVATION	15.27 METERS
GEODETIC LONGITUDE	75 35 04.28498		50.1 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
DE	0700	451,930.38	166,429.00	− 0° 06′ 16″
MD	1900	1,205,329.68	230,227.87	+ 0 53 18

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
LINE	271° 54′ 09.6″	272° 00′ 25″	0700
LINE	271 54 09.6	271 00 51	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

LEVELING BY NGS

RECOVERY NOTE, TRIANGULATION STATION

R

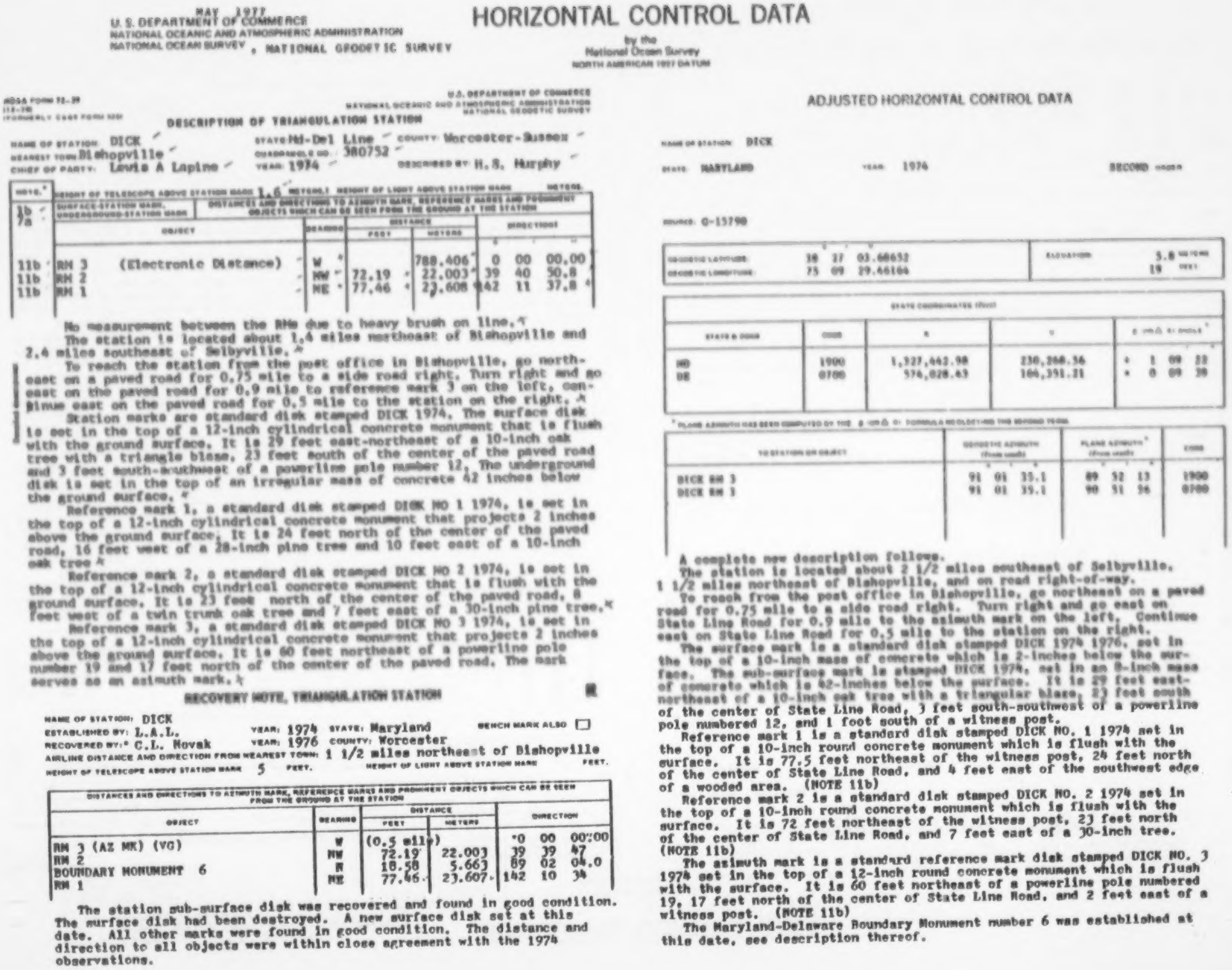
NAME OF STATION: E-W No. 29
ESTABLISHED BY: C.L.N. YEAR: 1976 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1/4 mile west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
DELMAR RM 4 1976	WNW	227.50	69.342	0° 00′ 00.00″
BOUNDARY MONUMENT 29	S	136.46	41.593	240 07 56.9

In the 1981 survey, the old Maryland-Delaware disk was recovered as described and found in good condition. The old disk was replaced with a standard National Geodetic Survey station disk stamped E-W No. 29 1976-1981. This station was established on line between Boundary Monuments 25 and 35 in 1976.

Maryland-Delaware Boundary Monument 29 was established on this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(11-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION DICK
STATE Md-Del Line
COUNTY Worcester-Sussex
NEAREST TOWN Bishopville
QUADRANGLE NO. 380752
CHIEF OF PARTY Lewis A Lapine
YEAR 1974
DESCRIBED BY H.S. Murphy

NOTE* 1b 7a
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.6 METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS
SURFACE-STATION MARK, UNDERGROUND-STATION MARK
DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS °	′	″
11b	RM 3 (Electronic Distance)	W		788.406	0	00	00.00
11b	RM 2	NW	72.19	22.003	39	40	50.8
11b	RM 1	NE	77.46	23.608	142	11	37.8

No measurement between the RMs due to heavy brush on line.

The station is located about 1.4 miles northeast of Bishopville and 2.4 miles southeast of Selbyville.

To reach the station from the post office in Bishopville, go northeast on a paved road for 0.75 mile to a side road right. Turn right and go east on the paved road for 0.9 mile to reference mark 3 on the left, continue east on the paved road for 0.5 mile to the station on the right.

Station marks are standard disk stamped DICK 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 29 feet east-northeast of a 10-inch oak tree with a triangle blaze, 23 feet south of the center of the paved road and 3 feet south-southwest of a powerline pole number 12. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped DICK NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 24 feet north of the center of the paved road, 16 feet west of a 28-inch pine tree and 10 feet east of a 10-inch oak tree

Reference mark 2, a standard disk stamped DICK NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 23 feet north of the center of the paved road, 8 feet west of a twin trunk oak tree and 7 feet east of a 30-inch pine tree.

Reference mark 3, a standard disk stamped DICK NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 60 feet northeast of a powerline pole number 19 and 17 feet north of the center of the paved road. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: DICK
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 1/2 miles northeast of Bishopville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
RM 3 (AZ MK) (VG)	W	(0.5 mile)		0	00	00.00
RM 2	NW	72.19	22.003	39	39	47
BOUNDARY MONUMENT 6	N	18.58	5.663	89	02	04.0
RM 1	NE	77.46	23.607	142	10	34

The station sub-surface disk was recovered and found in good condition. The surface disk had been destroyed. A new surface disk set at this date. All other marks were found in good condition. The distance and direction to all objects were within close agreement with the 1974 observations.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION DICK
STATE MARYLAND YEAR 1974 SECOND ORDER
SOURCE G-15798

	°	′	″		
GEODETIC LATITUDE	38	27	03.68632	ELEVATION	5.8 METERS
GEODETIC LONGITUDE	75	09	29.46104		19 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) AT STATION*
MD	1900	1,327,442.98	230,268.36	+ 1 09 22
DE	0700	574,028.63	164,391.21	+ 0 09 38

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) OF FORMULA SELECTED THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (from south)	PLANE AZIMUTH* (from south)	CODE
DICK RM 3	91 01 35.1	89 52 13	1900
DICK RM 3	91 01 35.1	90 51 56	0700

A complete new description follows.

The station is located about 2 1/2 miles southeast of Selbyville, 1 1/2 miles northeast of Bishopville, and on road right-of-way.

To reach from the post office in Bishopville, go northeast on a paved road for 0.75 mile to a side road right. Turn right and go east on State Line Road for 0.9 mile to the azimuth mark on the left. Continue east on State Line Road for 0.5 mile to the station on the right.

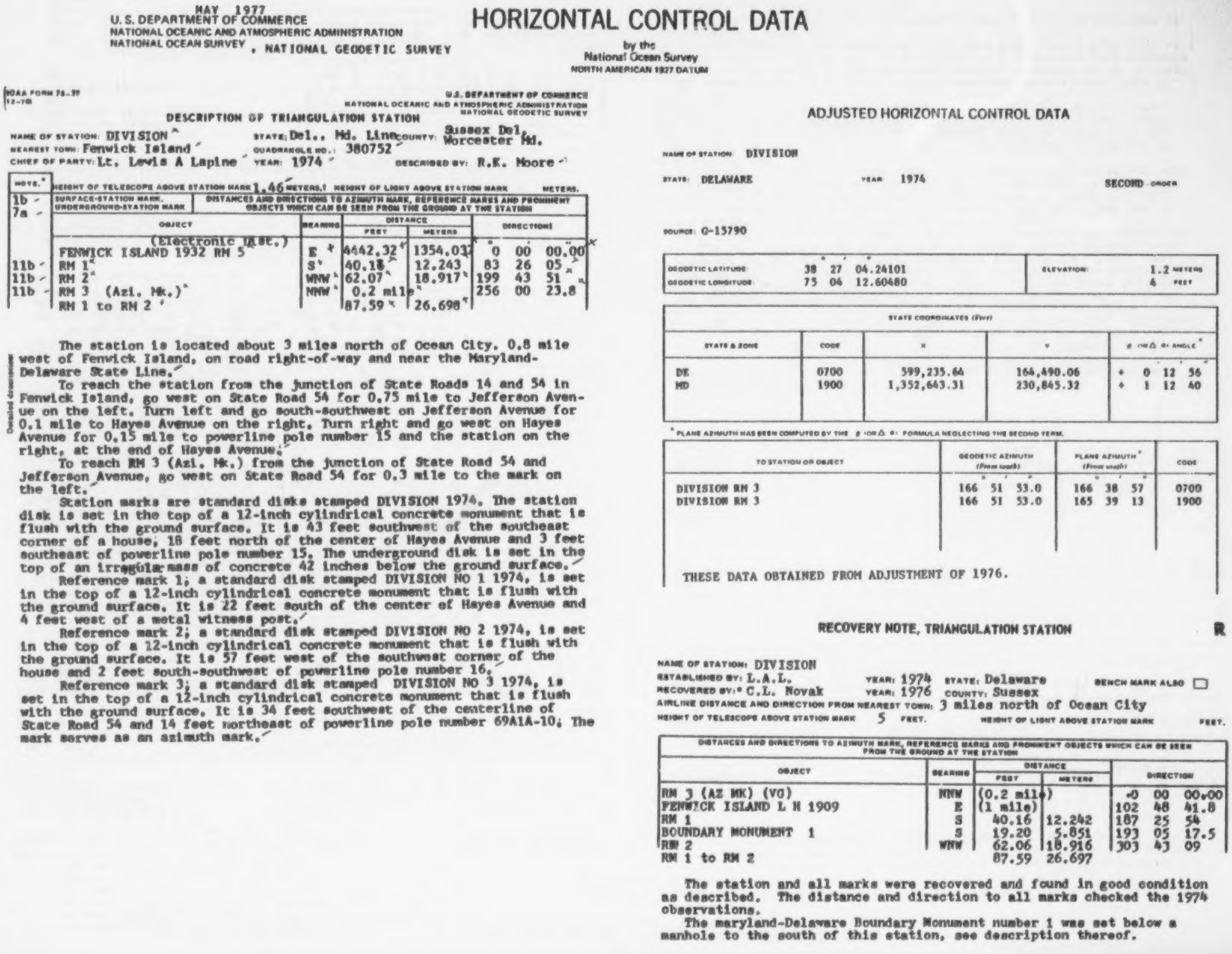
The surface mark is a standard disk stamped DICK 1974 1976, set in the top of a 10-inch mass of concrete which is 2-inches below the surface. The sub-surface mark is stamped DICK 1974, set in an 8-inch mass of concrete which is 42-inches below the surface. It is 29 feet east-northeast of a 10-inch oak tree with a triangular blaze, 23 feet south of the center of State Line Road, 3 feet south-southwest of a powerline pole numbered 12, and 1 foot south of a witness post.

Reference mark 1 is a standard disk stamped DICK NO. 1 1974 set in the top of a 10-inch round concrete monument which is flush with the surface. It is 77.5 feet northeast of the witness post, 24 feet north of the center of State Line Road, and 4 feet east of the southwest edge of a wooded area. (NOTE 11b)

Reference mark 2 is a standard disk stamped DICK NO. 2 1974 set in the top of a 10-inch round concrete monument which is flush with the surface. It is 72 feet northeast of the witness post, 23 feet north of the center of State Line Road, and 7 feet east of a 30-inch tree. (NOTE 11b)

The azimuth mark is a standard reference mark disk stamped DICK NO. 3 1974 set in the top of a 12-inch round concrete monument which is flush with the surface. It is 60 feet northeast of a powerline pole numbered 19, 17 feet north of the center of State Line Road, and 2 feet east of a witness post. (NOTE 11b)

The Maryland-Delaware Boundary Monument number 6 was established at this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
12-70

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DIVISION
STATE: Del., Md. Line
COUNTY: Sussex Del, Worcester Md.
NEAREST TOWN: Fenwick Island
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lt. Lewis A Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

NOTE.*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.46 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
1b	SURFACE-STATION MARK,				
7a	UNDERGROUND-STATION MARK				
	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	(Electronic Dist.) FENWICK ISLAND 1932 RM 5	E	4442.32	1354.032	0 00 00.00
11b	RM 1	S	40.18	12.243	83 26 05
11b	RM 2	WNW	62.07	18.917	199 43 51
11b	RM 3 (Azi. Mk.)	NNW	0.2 mile		256 00 23.8
	RM 1 to RM 2		87.59	26.698	

Detailed description

The station is located about 3 miles north of Ocean City, 0.8 mile west of Fenwick Island, on road right-of-way and near the Maryland-Delaware State Line.

To reach the station from the junction of State Roads 14 and 54 in Fenwick Island, go west on State Road 54 for 0.75 mile to Jefferson Avenue on the left. Turn left and go south-southwest on Jefferson Avenue for 0.1 mile to Hayes Avenue on the right. Turn right and go west on Hayes Avenue for 0.15 mile to powerline pole number 15 and the station on the right, at the end of Hayes Avenue.

To reach RM 3 (Azi. Mk.) from the junction of State Road 54 and Jefferson Avenue, go west on State Road 54 for 0.3 mile to the mark on the left.

Station marks are standard disks stamped DIVISION 1974. The station disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 43 feet southwest of the southeast corner of a house, 18 feet north of the center of Hayes Avenue and 3 feet southeast of powerline pole number 15. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1; a standard disk stamped DIVISION NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 22 feet south of the center of Hayes Avenue and 4 feet west of a metal witness post.

Reference mark 2; a standard disk stamped DIVISION NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 57 feet west of the southwest corner of the house and 2 feet south-southwest of powerline pole number 16.

Reference mark 3; a standard disk stamped DIVISION NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 34 feet southwest of the centerline of State Road 54 and 14 feet northeast of powerline pole number 69A1A-10. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DIVISION
STATE: DELAWARE
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE:	38 27 04.24101	ELEVATION:	1.2 METERS
GEODETIC LONGITUDE:	75 04 12.60480		4 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
DE	0700	599,235.64	164,490.06	+ 0 12 56
MD	1900	1,352,643.31	230,845.32	+ 1 12 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
DIVISION RM 3	166 51 53.0	166 38 57	0700
DIVISION RM 3	166 51 53.0	165 39 13	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: DIVISION
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles north of Ocean City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
RM 3 (AZ MK) (VG)	NNW	(0.2 mile)		-0 00 00.00
FENWICK ISLAND L H 1909	E	(1 mile)		102 48 41.8
RM 1	S	40.16	12.242	187 25 54
BOUNDARY MONUMENT 1	S	19.20	5.851	193 05 17.5
RM 2	WNW	62.06	18.916	303 43 09
RM 1 to RM 2		87.59	26.697	

The station and all marks were recovered and found in good condition as described. The distance and direction to all marks checked the 1974 observations.

The maryland-Delaware Boundary Monument number 1 was set below a manhole to the south of this station, see description thereof.

SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DUMP
NEAREST TOWN: Hebron
CHIEF OF PARTY: L.A. Lapine
STATE: Maryland
QUADRANGLE NO.: 380753
YEAR: 1974
COUNTY: Wicomico
DESCRIBED BY: H.S. Murphy

HEIGHT OF TELESCOPE ABOVE STATION MARK 1,55 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1,35 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
1b	SURFACE-STATION MARK,						
7a	UNDERGROUND-STATION MARK						
11b	RM 1 (Tension 5 kgs.)	NE	48.28	14.718	00	00	00.0
11b	RM 2 (Tension 5 kgs.)	SE	70.28	21.422	102	43	20.5

No measurement between reference marks due to brush on line.

No suitable place to establish an azimuth mark.

The station is located about 3 1/2 miles west of Delmar, Delaware, 3 1/2 miles north of Hebron, Maryland, 0.6 mile east of the Maryland-Delaware State Line Corner and on the Highway 54 right-of-way.

To reach the station from the railroad crossing and State Highway 54 in Delmar, Delaware, go west on State Highway 54 for 0.2 mile to a Y fork. Turn left and continue west on paved road for 0.35 mile to a Y fork. Continue ahead to the right westerly on paved road for 1.05 miles to a paved road right and end of pavement. Continue ahead west on sand road for 1.05 miles to a T-road junction. Turn left and go south on paved road for 0.3 mile to a crossroad. Turn right and go west on paved road for 1.05 miles to a side road left and the entrance to County Dump on the right. Turn right and go north on sand road through the dump for 03 mile to the station on the left.

The station marks are standard disks stamped DUMP 1974. The surface disk is setin the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 13 feet northwest of the center of a sand road, 10.5 feet southwest of a 16-inch pine tree, 6 feet northeast of an 18-inch pine tree and 2.5 feet southwest of a metal witness post with sign. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped DUMP NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 47 feet east of the metal witness post, 42 feet south of a 10-inch pine tree and 12 feet southeast of the center of a sand road.

Reference mark 2, a standard disk stamped DUMP NO 2 1974, set in the top of a 12-inch cylindrical concrete monument that projects 6 inches above the ground surface. It is 72 feet south of the metal witness post, 61 feet northeast of a 14-inch pine tree and 12 feet east-southeast of the center of the sand road.

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: DUMP
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3-1/2 miles west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 3 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3	WNW	74.63	22.747	°0 00′ 00″.0
E-W No. 32 1976-1981	NNE	247.62	75.476	91 57 39.8
Boundary Monument 32	NNE	158.78	48.397	91 57 41.0
BDRY. MON. 32 to E-W No. 32		88.86	27.078	

DUMP TO RM 3 (Polaris Azimuth) = 108° 27′ 29″.2

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION DUMP
STATE MARYLAND YEAR 1974 SECOND-ORDER

SOURCE: G-15790

	°	′	″	
GEODETIC LATITUDE:	38	27	28.49702	ELEVATION: 13.1 METERS
GEODETIC LONGITUDE:	75	38	54.95514	43 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
MD	1900	1,186,977.29	230,321.79	+ 0 50 54
DE	0700	433,581.96	166,840.84	- 0 08 39

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station and all marks were recovered as described and found in good condition.

Boundary Monument 32 was established on this date, see description thereof.

E-W No. 32 is a standard National Geodetic Survey Disk set on line between Boundary Monuments 25 and 35 in 1976-1981.

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: FENWICK ISLAND
ESTABLISHED BY: C. D. M. YEAR: 1932 STATE: Delaware
RECOVERED BY: R. W. Tomlinson YEAR: 1962 COUNTY: Sussex

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.65 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34.0 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
HASSEY 1909				0° 00′ 00.0″
Fenwick Island U. S. Navy Tower				19 55 37.7
Azimuth mark	E	Approx. 0.15 mile		111 06 00.9
Coast Guard Mark	W			274 16 00.9
Reference mark No. 2	W			275 32 37.0
Fenwick Island Lighthouse 1909				291 23 46.1
Reference mark No. 3 (azimuth mark).	WNW	Approx. 0.5 mile		307 46 41.7
Reference mark No. 4	NNW	80.980	24.684	345 13 53.6

The station mark, reference marks No. 2 and No. 3 were recovered as described and No. 3 was as described. No. 2 in top of the Boundary Monument leans some and is loose in the ground, this mark could not be measured to, because of a hedge row and a fence, which is around the Lighthouse. Reference mark No. 3 was destroyed on this date as it was no longer visible from the ground. A new azimuth mark was established.

The Coast Guard mark could not be measured to, because of hedge row and fence around the Lighthouse. The Lighthouse could not be measured to, because of house now in line. Reference mark No. 1 was searched for but not found. It is believed to have been destroyed. A new reference mark No. 4 was established on this date.

The station is now on property owned by Mrs Evert Long, who lives in Selbyville, Delaware.

To reach the station from the junction of State Highways 14 and 26 in Bethany Beach, Delaware; go south on State Highway 14 for 6.28 miles to a side road right, just north of State Line signs*. Continue south on State Highway 14 for 0.06 mile to powerline pole No. 156 A, a standard metal witness post and the mark on the left, east, side of the highway. *Turn right and go west on a blacktop road for 0.15 mile to a private driveway on the left. Turn left and go south on the private driveway for 0.06 mile to a large frame house the Lighthouse and the station to the left of the house.

Reference mark 4, a standard disk stamped FENWICK ISLAND NO 4 1932, is set in the top of a 10-inch square concrete monument flush with the surface of the ground. It is 65.7 feet northeast of the northeast corner of house and 11.0 feet east of the centerline of driveway and about station elevation. Note 11a.

The azimuth mark, a standard disk stamped FENWICK ISLAND 1932 RESET 1962, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 150.0 feet south of the State Line and centerline of a graveled road running east, 55.0 feet east of the centerline of State Highway 528, 1.0 feet northwest of a standard metal witness post and marker and 1.3 feet west of powerline pole No. 156. Note 16a.

NAME OF STATION: FENWICK ISLAND R
ESTABLISHED BY: YEAR: 1932 STATE: Delaware BENCH MARK ALSO ☒
RECOVERED BY: Louis A. Lapine YEAR: 1974 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: North edge of Fenwick Island.
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	° ′ ″
FENWICK ISLAND 1932 RM 5 Traverse Distance	SE	(84.04)	25.615	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION FENWICK ISLAND
STATE DELAWARE YEAR 1932 SECOND-ORDER
SOURCE G-15790

GEODETIC LATITUDE	38° 27′ 04.25204″	ELEVATION	2.91 METERS
GEODETIC LONGITUDE	75 03 17.39000		9.5 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	603,628.23	164,508.06	+ 0 13 30
MD	1900	1,357,034.78	230,939.65	+ 1 13 15

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
FENWICK ISLAND RM 3	115 21 50.2	115 08 20	0700
FENWICK ISLAND RM 3	115 21 50.2	114 08 35	1900
FENWICK IS AZ MK	278 41 09.6	278 27 40	0700
FENWICK IS AZ MK	278 41 09.6	277 27 54	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF JUN 1976

LEVELING BY CGS

Additional descriptive information for this station may be obtained from the National Geodetic Survey.

The station mark, reference mark 2, Coast Guard mark and the azimyth mark were recovered and found in good condition as described in 1962.

Reference mark 4 was searched for but was not recovered at this date, it is believed that the mark has been destroyed when the trailer park was established. A new reference mark 5 was established at this date.

No observations or measurements to the reference marks were taken at this date due to a house trailer over the station mark.

A tower was erected over reference mark 5 and all observations taken.

A traverse distance was made to reference mark 5.

For additional information see description FENWICK ISLAND 1932 RM 5;

SEPTEMBER 1981

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FREEDOM
STATE: Delaware
COUNTY: Sussex
NEAREST TOWN: Delmar, Delaware
QUADRANGLE NO.: 380753
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.55 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK				
1b 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS
Desc.	RM 3 (Az. Mk.)	W	0.4	mile	0 00 00.00
11b	RM 2	NW	55.40	16.886	43 13 59
11b	RM 1	NE	39.65	12.086	129 57 22
	RM 1 to RM 2		66.24	20.191	

Detailed description:

The station is located in the town of Delmar, Delaware and on land owned by the town, Permission was granted to establish the station by Mr. Samuel J. Mitchell, Clerk-Treasure, 14 East State Street, Delmar, Delaware, 19940, telephone number 301-896-2777.

To reach the station from the railroad crossing and State Road 54 in Delmar, go east on State Road 54 for 0.4 mile to the city park and the station on the left.

Station marks are standard disks stamped FREEDOM 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 34 feet southeast of a granite monument, 28 feet north of the centerline of State Road 54, 9 feet south of a 24-inch pine tree and 8 feet northwest of a 20-inch pine tree. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped FREEDOM NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 56 feet north of the centerline of State Road 54, 45 feet south-southwest of a 22-inch pine tree and 37 feet west of a 30-inch oak tree.

Reference mark 2, a standard disk stamped FREEDOM NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 64 feet north of the centerline of State Road 54, 35 feet southwest of the 30-inch oak tree and 22 feet northwest of the granite monument.

Reference mark 3, a standard disk stamped FREEDOM NO 3 1974, is cemented in a drill hole in the center of a sidewalk. It is 68 feet east of the center of Penna Ave., 28.6 feet west of the northwest corner of the Bank Of Delmar and 26 feet south of the centerline of State Road 54.

To reach reference mark 3 from the station, go west on State Road 54 for 0.4 mile to the mark on the left. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: FREEDOM
ESTABLISHED BY: C.L.N. YEAR: 1976 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1/2 mile east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
FREEDOM RM 3 (AZ MK) 1974	W	(0.4 mile)		0 00 00.00
RM 2	NW	55.39	16.884	43 13 58
E-W No. 28, 1976-1981	NNW	90.83	27.685	81 56 54.5
RM 1	NE	39.65	12.085	129 58 05
BOUNDARY MONUMENT 28	S	25.62	7.811	272 22 33.6
RM 1 to RM 2		66.25	20.193	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FREEDOM
STATE: DELAWARE
YEAR: 1974
SECOND ORDER

SOURCE: G-15790

GEODETIC LATITUDE:	38 27 21.31348	ELEVATION:	15.7 METERS
GEODETIC LONGITUDE:	75 34 19.95337		52 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ - OR Δ α: ANGLE*
DE	0700	455,456.27	166,068.14	- 0 05 48
MD	1900	1,208,861.22	229,928.17	+ 0 53 46

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ - OR Δ α: FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
FREEDOM RM 3	89 34 18.3	89 40 06	0700
FREEDOM RM 3	89 34 18.3	88 40 32	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station mark and all reference marks were recovered as described and found in good condition. Boundary Monument 28 was set on this date, for additional information, see the description thereof.

E-W No. 28 is a standard National Geodetic Survey station disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

Additional measured distances:

	meters	feet
BDRY. MON. 28 to RM 1	18.882	61.95
BDRY. MON. 28 to RM 2	22.770	74.70
E-W No. 28 to RM 1	21.564	70.74
E-W No. 28 to RM 2	17.944	58.87

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GREYERS
STATE: Del., Md. Line
COUNTY: Sussex Del. Worcester Md.
NEAREST TOWN: Fenwick Island
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

NOTE.* 1b 7a

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.47 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

NOTE	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″
11b	RM 3 (Azi. Mk.)(Elec. Dist.)	SW	1281.45	390.592	0 00 00.00
11b	RM 2	NW	42.77	13.035	85 18 26
11b	RM 1	S	44.99	13.713	350 15 50
	RM 1 to RM 2		64.71	19.723	

Detailed description:

The station is located about 2.8 miles west of Fenwick Island, 2.4 miles southeast of Johnson, 1.5 miles south-southeast of Williamsville and on road right-of-way.

To reach the station from the junction of State Roads 14 and 54 in Fenwick Island, go west-northwest and southwest on State Road 54 for 4.15 miles to a side road left and the Sound Methodist Church on the left. Turn left and go southeast on a paved road for 0.7 mile to a T-road and a stop sign. Turn left and go southeasterly on a paved road for 0.45 mile to a side road right. Turn right and go southwesterly on a paved road for 0.3 mile to the station on the left. Continue southwesterly on the paved road for 0.25 mile to reference mark 3 on the left.

Station marks are standard disks stamped GREYERS 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 22 feet southeast of the center of the paved road, 3 feet west of a metal witness post and 2 feet northwest of a fence. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped GREYERS NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 25 feet southeast of the center of the paved road and 1 foot northwest of the fence.

Reference mark 2, a standard disk stamped GREYERS NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 21 feet northwest of the center of the paved road and 2 feet southeast of the edge of a cultivated field.

Reference mark 3, a standard disk stamped GREYERS NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 25 feet southeast of the center of the paved road, 4.2 feet southwest of a metal witness post and 2 feet northwest of a fence. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: GREYERS
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 1/2 miles south of Williamsville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 AZ MK (VG)	SW	(1/4 mile)		°0 00 00.00
RM 2	NW	42.77	13.035	85 18 25
BOUNDARY MONUMENT 3	SW	(148.34)	45.214	349 56 54.2
RM 1	S	44.98	13.711	350 15 56
RM 1 to RM 2		64.73	19.730	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GREYERS
STATE: DELAWARE YEAR: 1974 SECOND ORDER
SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE	38 27 05.17182	ELEVATION	2.4 METERS
GEODETIC LONGITUDE	75 06 28.52180		8 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE* ° ′ ″
DE	0700	588,422.52	164,545.78	+ 0 11 31
MD	1900	1,341,831.15	230,713.13	+ 1 11 15

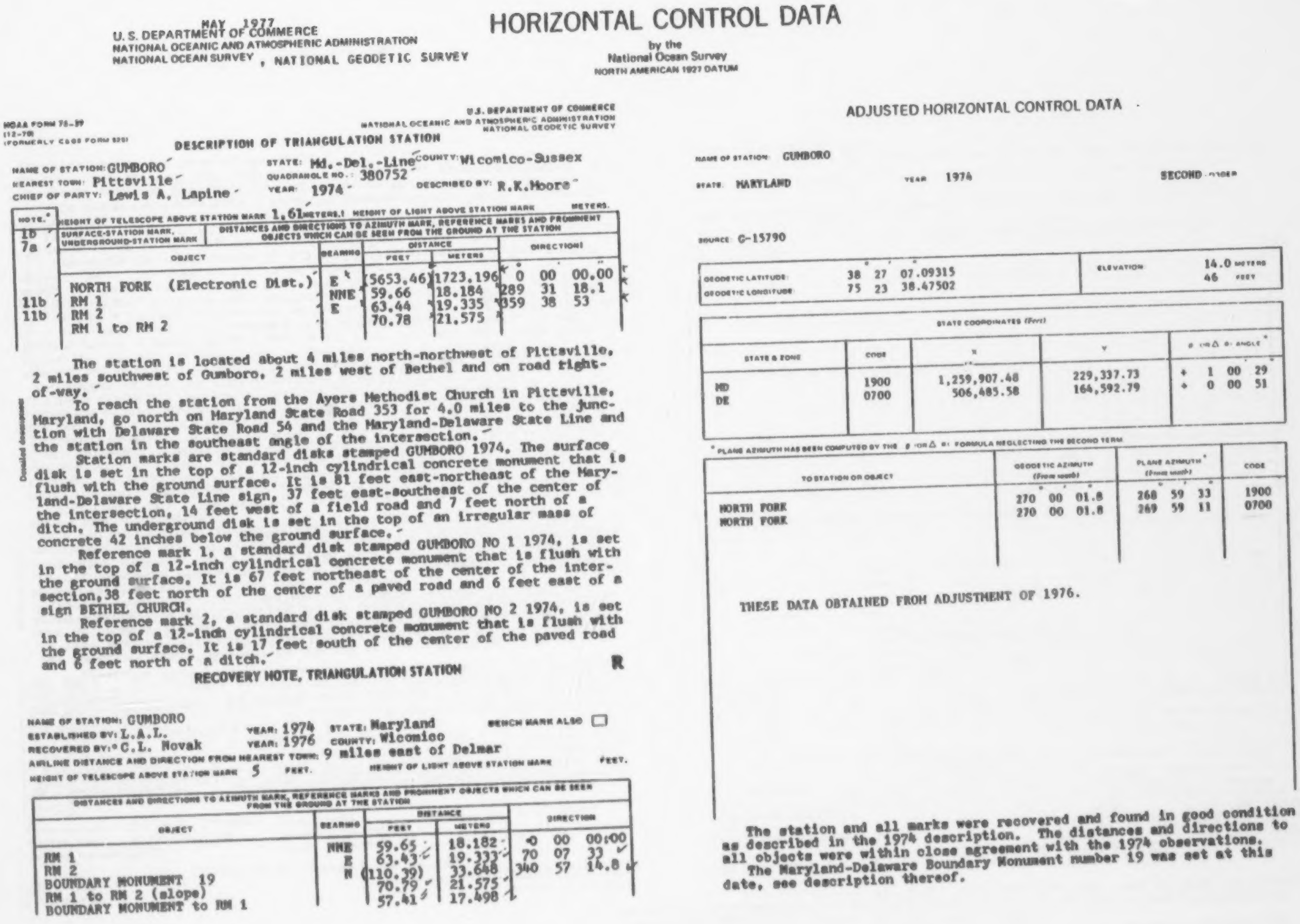
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
GREYERS RM 3	42 59 30.0	42 47 59	0700
GREYERS RM 3	42 59 30.0	41 48 15	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition as described in the 1974 description. The distance and direction to all marks checked the 1974 observations.

The Maryland-Delaware Boundary Monument number 3 was established at this date, see description thereof.



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GUMBORO
NEAREST TOWN: Pittsville
CHIEF OF PARTY: Lewis A. Lapine
STATE: Md.-Del.-Line COUNTY: Wicomico-Sussex
QUADRANGLE NO.: 380752
YEAR: 1974 DESCRIBED BY: R.K.Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.61 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
1b 7a	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
	NORTH FORK (Electronic Dist.)	E	(5653.46)	1723.196	0	00	00.00
11b	RM 1	NNE	59.66	18.184	289	31	18.1
11b	RM 2	E	63.44	19.335	359	38	53
	RM 1 to RM 2		70.78	21.575			

The station is located about 4 miles north-northwest of Pittsville, 2 miles southwest of Gumboro, 2 miles west of Bethel and on road right-of-way.

To reach the station from the Ayers Methodist Church in Pittsville, Maryland, go north on Maryland State Road 353 for 4.0 miles to the junction with Delaware State Road 54 and the Maryland-Delaware State Line and the station in the southeast angle of the intersection.

Station marks are standard disks stamped GUMBORO 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 81 feet east-northeast of the Maryland-Delaware State Line sign, 37 feet east-southeast of the center of the intersection, 14 feet west of a field road and 7 feet north of a ditch. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped GUMBORO NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 67 feet northeast of the center of the intersection, 38 feet north of the center of a paved road and 6 feet east of a sign BETHEL CHURCH.

Reference mark 2, a standard disk stamped GUMBORO NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 17 feet south of the center of the paved road and 6 feet north of a ditch.

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: GUMBORO
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 9 miles east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
RM 1	NNE	59.65	18.182	0	00	00.00
RM 2	E	63.43	19.333	70	07	33
BOUNDARY MONUMENT 19	N	(110.39)	33.648	340	57	14.8
RM 1 to RM 2 (slope)		70.79	21.575			
BOUNDARY MONUMENT to RM 1		57.41	17.498			

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GUMBORO
STATE: MARYLAND YEAR 1974 SECOND ORDER

SOURCE: G-15790

	°	′	″		
GEODETIC LATITUDE:	38	27	07.09315	ELEVATION:	14.0 METERS
GEODETIC LONGITUDE:	75	23	38.47502		46 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
MD	1900	1,259,907.48	229,337.73	+ 1 00 29
DE	0700	506,485.58	164,592.79	+ 0 00 51

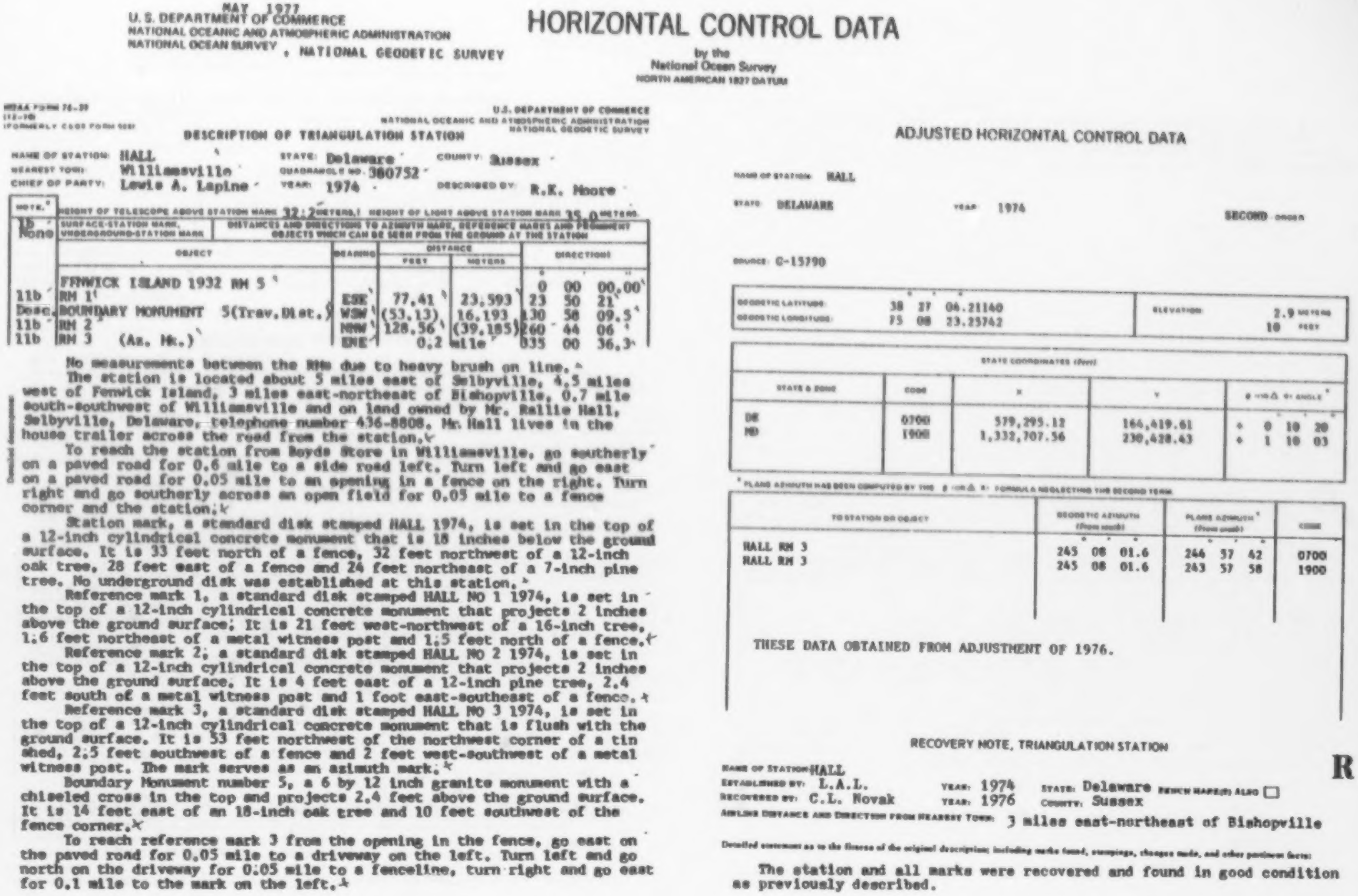
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
NORTH FORK	270 00 01.8	268 59 33	1900
NORTH FORK	270 00 01.8	269 59 11	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition as described in the 1974 description. The distances and directions to all objects were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number 19 was set at this date, see description thereof.



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION:	HALL	STATE:	Delaware	COUNTY:	Sussex
NEAREST TOWN:	Williamsville	QUADRANGLE NO.:	380752		
CHIEF OF PARTY:	Lewis A. Lapine	YEAR:	1974	DESCRIBED BY:	R.K. Moore

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 32.2 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 35.0 METERS

NOTE	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″
1b None					
	FENWICK ISLAND 1932 RM 5				0 00 00.00
11b	RM 1	ESE	77.41	23.593	23 50 21
Desc.	BOUNDARY MONUMENT 5(Trav.Dist.)	WSW	(53.13)	16.193	130 58 09.5
11b	RM 2	NNW	128.56	(39.185)	260 44 06
11b	RM 3 (Az. Mk.)	ENE	0.2 mile		335 00 36.3

(DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION)

No measurements between the RMs due to heavy brush on line.

The station is located about 5 miles east of Selbyville, 4.5 miles west of Fenwick Island, 3 miles east-northeast of Bishopville, 0.7 mile south-southwest of Williamsville and on land owned by Mr. Rallie Hall, Selbyville, Delaware, telephone number 436-8808. Mr. Hall lives in the house trailer across the road from the station.

To reach the station from Boyds Store in Williamsville, go southerly on a paved road for 0.6 mile to a side road left. Turn left and go east on a paved road for 0.05 mile to an opening in a fence on the right. Turn right and go southerly across an open field for 0.05 mile to a fence corner and the station.

Station mark, a standard disk stamped HALL 1974, is set in the top of a 12-inch cylindrical concrete monument that is 18 inches below the ground surface. It is 33 feet north of a fence, 32 feet northwest of a 12-inch oak tree, 28 feet east of a fence and 24 feet northeast of a 7-inch pine tree. No underground disk was established at this station.

Reference mark 1, a standard disk stamped HALL NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 21 feet west-northwest of a 16-inch tree, 1.6 feet northeast of a metal witness post and 1.5 feet north of a fence.

Reference mark 2, a standard disk stamped HALL NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 4 feet east of a 12-inch pine tree, 2.4 feet south of a metal witness post and 1 foot east-southeast of a fence.

Reference mark 3, a standard disk stamped HALL NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 53 feet northwest of the northwest corner of a tin shed, 2.5 feet southwest of a fence and 2 feet west-southwest of a metal witness post. The mark serves as an azimuth mark.

Boundary Monument number 5, a 6 by 12 inch granite monument with a chiseled cross in the top and projects 2.4 feet above the ground surface. It is 14 feet east of an 18-inch oak tree and 10 feet southwest of the fence corner.

To reach reference mark 3 from the opening in the fence, go east on the paved road for 0.05 mile to a driveway on the left. Turn left and go north on the driveway for 0.05 mile to a fenceline, turn right and go east for 0.1 mile to the mark on the left.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: HALL

STATE: DELAWARE YEAR: 1974 SECOND ORDER

SOURCE: G-15790

	° ′ ″		
GEODETIC LATITUDE:	38 27 06.21140	ELEVATION:	2.9 METERS
GEODETIC LONGITUDE:	75 08 23.25742		10 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) or ANGLE* ° ′ ″
DE	0700	579,295.12	164,419.61	+ 0 10 20
MD	1900	1,332,707.56	230,428.43	+ 1 10 03

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
HALL RM 3	245 08 01.6	244 57 42	0700
HALL RM 3	245 08 01.6	243 57 58	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

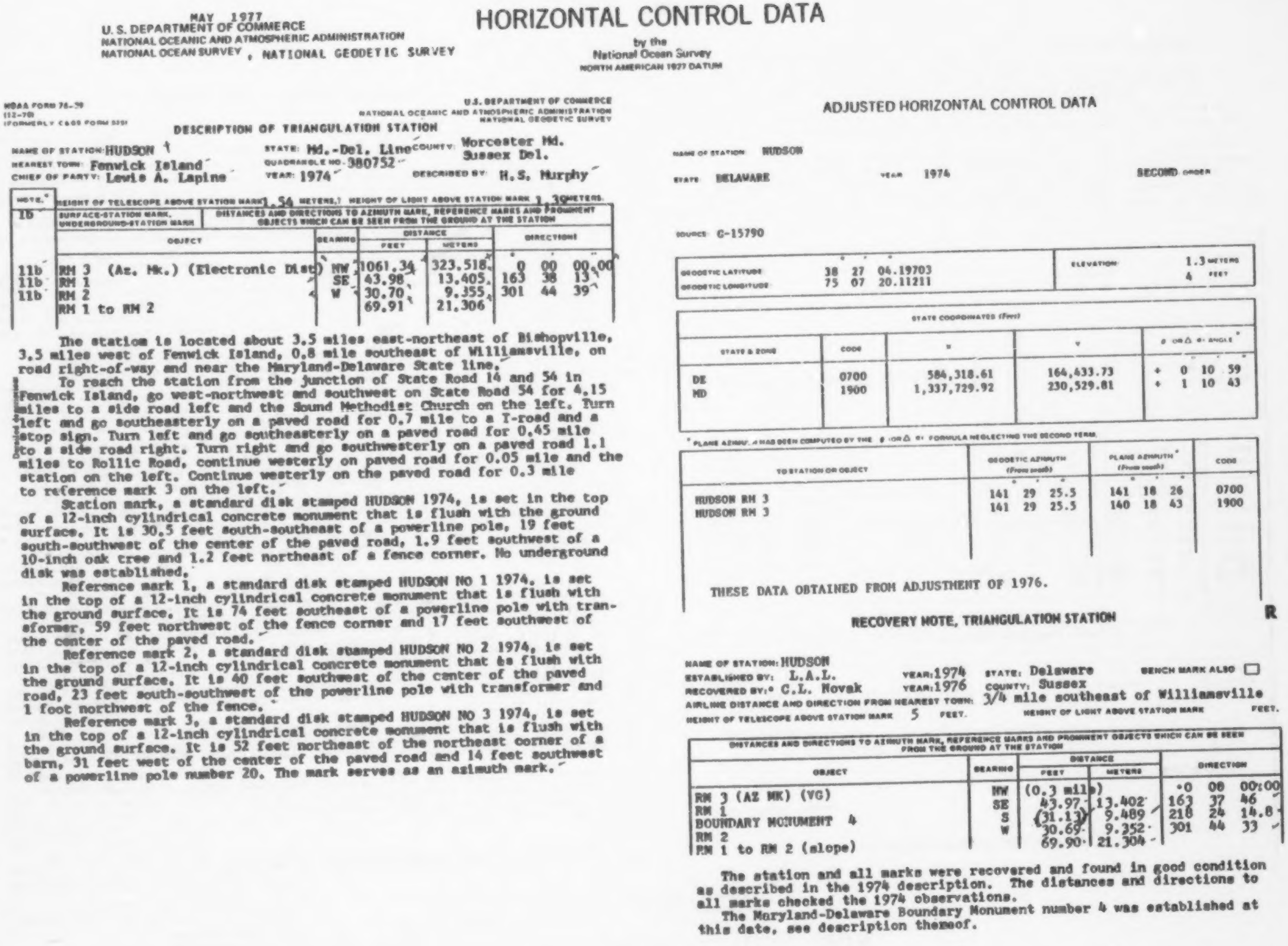
RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: HALL
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK(S) ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles east-northeast of Bishopville

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station and all marks were recovered and found in good condition as previously described.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HUDSON
STATE: Md.-Del. Line
COUNTY: Worcester Md.
Sussex Del.
NEAREST TOWN: Fenwick Island
QUADRANGLE NO. 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: H.S. Murphy

NOTE.* 1b
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.54 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1.39 METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
11b	RM 3 (Az. Mk.) (Electronic Dist)	NW	1061.34	323.518	0	00	00.00
11b	RM 1	SE	43.98	13.405	163	38	13
11b	RM 2	W	30.70	9.355	301	44	39
	RM 1 to RM 2		69.91	21.306			

The station is located about 3.5 miles east-northeast of Bishopville, 3.5 miles west of Fenwick Island, 0.8 mile southeast of Williamsville, on road right-of-way and near the Maryland-Delaware State line.

To reach the station from the junction of State Road 14 and 54 in Fenwick Island, go west-northwest and southwest on State Road 54 for 4.15 miles to a side road left and the Sound Methodist Church on the left. Turn left and go southeasterly on a paved road for 0.7 mile to a T-road and a stop sign. Turn left and go southeasterly on a paved road for 0.45 mile to a side road right. Turn right and go southwesterly on a paved road 1.1 miles to Rollic Road, continue westerly on paved road for 0.05 mile and the station on the left. Continue westerly on the paved road for 0.3 mile to reference mark 3 on the left.

Station mark, a standard disk stamped HUDSON 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 30.5 feet south-southeast of a powerline pole, 19 feet south-southwest of the center of the paved road, 1.9 feet southwest of a 10-inch oak tree and 1.2 feet northeast of a fence corner. No underground disk was established.

Reference mark 1, a standard disk stamped HUDSON NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 74 feet southeast of a powerline pole with transformer, 59 feet northwest of the fence corner and 17 feet southwest of the center of the paved road.

Reference mark 2, a standard disk stamped HUDSON NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 40 feet southwest of the center of the paved road, 23 feet south-southwest of the powerline pole with transformer and 1 foot northwest of the fence.

Reference mark 3, a standard disk stamped HUDSON NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 52 feet northeast of the northeast corner of a barn, 31 feet west of the center of the paved road and 14 feet southwest of a powerline pole number 20. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION HUDSON
STATE DELAWARE
YEAR 1974
SECOND ORDER

SOURCE G-15790

	°	′	″		
GEODETIC LATITUDE	38	27	04.19703	ELEVATION	1.3 METERS
GEODETIC LONGITUDE	75	07	20.11211		4 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	584,318.61	164,433.73	+ 0 10 59
MD	1900	1,337,729.92	230,529.81	+ 1 10 43

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
HUDSON RM 3	141 29 25.5	141 18 26	0700
HUDSON RM 3	141 29 25.5	140 18 43	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: HUDSON
ESTABLISHED BY: L.A.L. YEAR: 1974
STATE: Delaware
BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976
COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3/4 mile southeast of Williamsville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
RM 3 (AZ MK) (VG)	NW	(0.3 mile)		0	00	00.00
RM 1	SE	43.97	13.402	163	37	46
BOUNDARY MONUMENT 4	S	(31.13)	9.489	218	24	14.8
RM 2	W	30.69	9.352	301	44	33
RM 1 to RM 2 (slope)		69.90	21.304			

The station and all marks were recovered and found in good condition as described in the 1974 description. The distances and directions to all marks checked the 1974 observations.

The Maryland-Delaware Boundary Monument number 4 was established at this date, see description thereof.

SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: HURLEY
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2-1/4 miles west of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
HURLEY RM 3 (AZ MK) 1974	SW	(1/2 mile)		0	00	00.00
BOUNDARY MONUMENT 31	NNE	36.04	10.986	136	39	08.9
E-W No. 31 1976-1981	NNE	168.65	51.405	141	31	42.2
RM 1	NNE	40.05	12.207	160	32	22
RM 4	ENE	28.33	8.639	210	24	13
RM 1 to RM 4		30.72	9.364			
RM 1 to BOUNDARY MONUMENT 31		16.23	4.947			
RM 4 to BOUNDARY MONUMENT 31		39.11	11.921			

In the 1981 survey, the station surface mark was found out of position but the subsurface marker was recovered and found undisturbed. The surface mark was reset back in its original location. Reference mark one and the azimuth mark were recovered and found in good condition. Reference mark two was found destroyed. A new reference mark four and Boundary Monument 31 were established on this date.

A complete new description of the station follows.

The station is located 7 miles northwest of Salisbury, [illegible]-1/2 miles northeast of Hebron and on road right-of-way.

To reach from the point where State Highway 54 crosses the railroad in Delmar, go west on State Highway 54 for 0.2 mile to a fork. Keep left and continue west on Waller Road for 0.35 mile to a fork. Keep right and continue west on a paved road for 1.7 miles to the station on the left.

The station surface mark is a standard disk stamped HURLEY 1974 1981, set in the top of a 12-inch round concrete monument which projects 6-inches. The sub-surface disk is set in a 6-inch mass of concrete about 2 feet below the surface and it is stamped HURLEY 1974. They are 37.5 feet south of a witness post, 45 feet southwest of the southwest edge of a small wooded area, 18.5 feet south of the center of the road, 10.0 feet southwest of the south edge of a 24-inch culvert and 1.2 feet north of a witness post. (NOTE 1b 7a)

Reference mark 1 is a standard disk stamped HURLEY NC 1 1974, set in the top of a 12-inch round concrete monument which projects 2-inches. It is 41 feet northeast of a witness post, 18.5 feet north of the center of the road, 16.5 feet east of the witness post, 7.7 feet east of the north end of the 24-inch culvert and 5 feet southwest of the southwest edge of the wooded area. (NOTE 11b)

Reference mark 4 is a standard disk stamped HURLEY 1974 NO 4 1981, set in the top of a 10-inch round concrete monument which is 1-inch below the surface. It is 40.0 feet southeast of the witness post, 18.5 feet east of the culvert and 10 feet south of the center of the road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION HURLEY
STATE MARYLAND YEAR 1974 SECOND ORDER

SOURCE G-15790

	°	′	″		
GEODETIC LATITUDE:	38	27	26.27218	ELEVATION:	13.9 METERS
GEODETIC LONGITUDE:	75	37	22.14920		46 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
MD	1900	1,194,362.14	230,207.07	+ 0° 51′ 52″
DE	0700	440,963.88	166,598.22	- 0 07 42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
HURLEY RM 3	46° 00′ 31.3″	45° 08′ 40″	1900
HURLEY RM 3	46 00 31.3	46 08 13	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

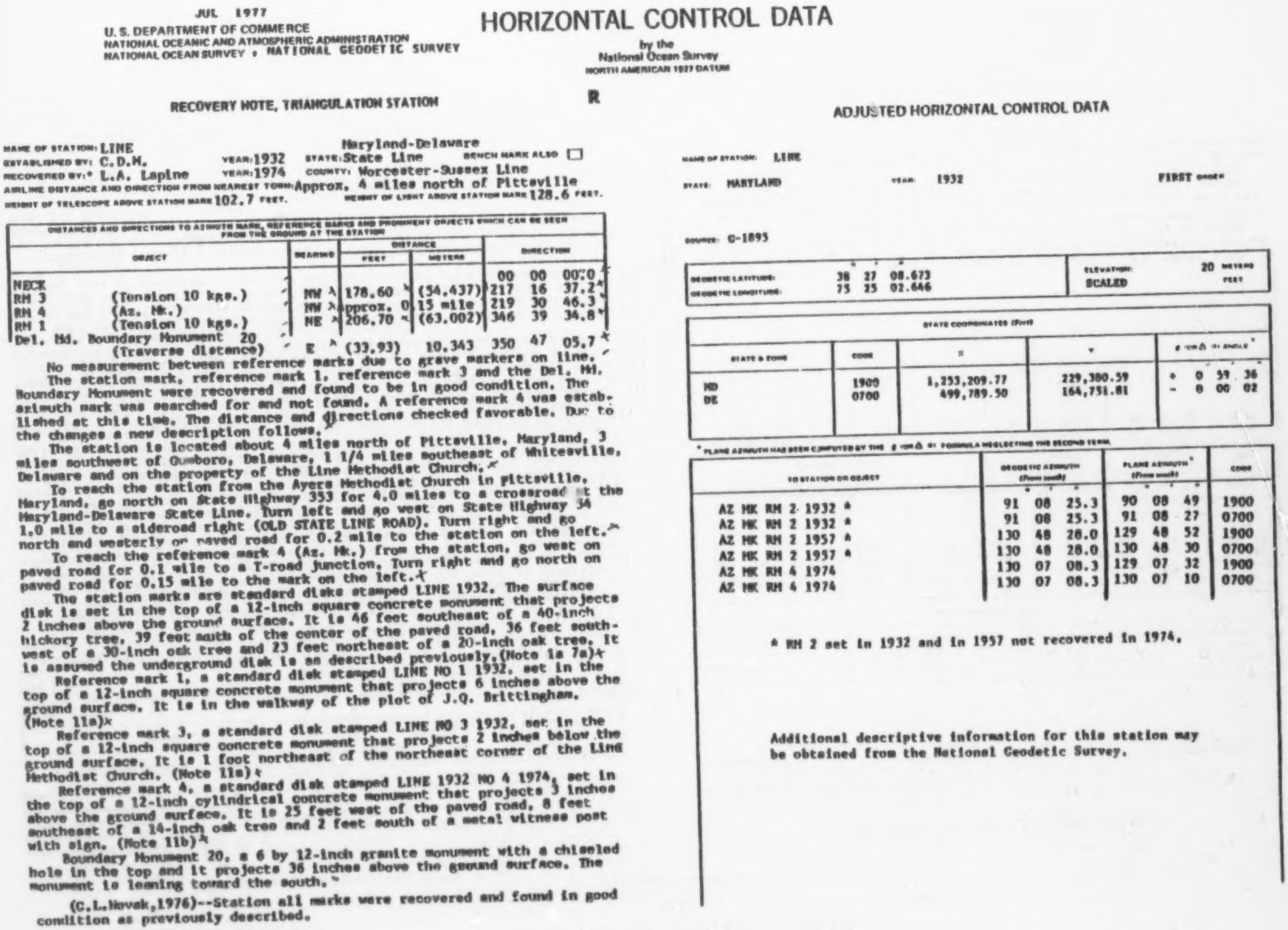
The azimuth mark is a standard reference mark disk stamped HURLEY NO 3 1974, set in the top of a 12-inch round concrete monument which projects 2-inches. It is 41 feet southeast of the center of the intersection of Jersey Road and Waller Road, 6 feet south-southwest of a powerline pole numbered 46205 96317 74X55, 4 feet north-northeast of a street sign "JERSEY ROAD" and 1.2 feet northeast of a witness post. (NOTE 11b)

To reach the azimuth mark from the station, go west on the paved road for 0.3 mile to a T-intersection. Turn left and go south on Jersey Road for 0.3 mile to a crossroads and the mark in the southeast angle of the intersection.

For additional information see the description of Boundary Monument 31.

E-W No. 31 is a standard National Geodetic Survey disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

The 1974 electronic distance measurement from HURLEY to RM 3 - 793.880 m.



JUL 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY • NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: LINE
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Maryland-Delaware State Line BENCH MARK ALSO ☐
RECOVERED BY:* L.A. Lapine YEAR: 1974 COUNTY: Worcester-Sussex Line
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: Approx. 4 miles north of Pittsville
HEIGHT OF TELESCOPE ABOVE STATION MARK 102.7 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 128.6 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT		BEARING	DISTANCE		DIRECTION		
			FEET	METERS			
NECK					00	00	00.0
RM 3	(Tension 10 kgs.)	NW	178.60	(54.437)	217	16	37.2
RM 4	(Az. Mk.)	NW	Approx. 0.15 mile		219	30	46.3
RM 1	(Tension 10 kgs.)	NE	206.70	(63.002)	346	39	34.8
Del. Md. Boundary Monument 20	(Traverse distance)	E	(33.93)	10.343	350	47	05.7

No measurement between reference marks due to grave markers on line.
The station mark, reference mark 1, reference mark 3 and the Del. Md.
Boundary Monument were recovered and found to be in good condition. The
azimuth mark was searched for and not found. A reference mark 4 was estab-
lished at this time. The distance and directions checked favorable. Due to
the changes a new description follows.
The station is located about 4 miles north of Pittsville, Maryland, 3
miles southwest of Gumboro, Delaware, 1 1/4 miles southeast of Whitesville,
Delaware and on the property of the Line Methodist Church.
To reach the station from the Ayers Methodist Church in Pittsville,
Maryland, go north on State Highway 353 for 4.0 miles to a crossroad at the
Maryland-Delaware State Line. Turn left and go west on State Highway 54
1.0 mile to a sideroad right (OLD STATE LINE ROAD). Turn right and go
north and westerly on paved road for 0.2 mile to the station on the left.
To reach the reference mark 4 (Az. Mk.) from the station, go west on
paved road for 0.1 mile to a T-road junction. Turn right and go north on
paved road for 0.15 mile to the mark on the left.
The station marks are standard disks stamped LINE 1932. The surface
disk is set in the top of a 12-inch square concrete monument that projects
2 inches above the ground surface. It is 46 feet southeast of a 40-inch
hickory tree, 39 feet south of the center of the paved road, 36 feet south-
west of a 30-inch oak tree and 23 feet northeast of a 20-inch oak tree. It
is assumed the underground disk is as described previously.(Note 1a 7a)
Reference mark 1, a standard disk stamped LINE NO 1 1932, set in the
top of a 12-inch square concrete monument that projects 6 inches above the
ground surface. It is in the walkway of the plot of J.Q. Brittingham.
(Note 11a)
Reference mark 3, a standard disk stamped LINE NO 3 1932, set in the
top of a 12-inch square concrete monument that projects 2 inches below the
ground surface. It is 1 foot northeast of the northeast corner of the Line
Methodist Church. (Note 11a)
Reference mark 4, a standard disk stamped LINE 1932 NO 4 1974, set in
the top of a 12-inch cylindrical concrete monument that projects 3 inches
above the ground surface. It is 25 feet west of the paved road, 8 feet
southeast of a 14-inch oak tree and 2 feet south of a metal witness post
with sign. (Note 11b)
Boundary Monument 20, a 6 by 12-inch granite monument with a chiseled
hole in the top and it projects 36 inches above the ground surface. The
monument is leaning toward the south.

(C.L.Novak,1976)--Station all marks were recovered and found in good
condition as previously described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LINE
STATE: MARYLAND YEAR: 1932 FIRST ORDER

SOURCE: G-1895

	°	'	"		
GEODETIC LATITUDE:	38	27	08.673	ELEVATION: SCALED	20 METERS
GEODETIC LONGITUDE:	75	25	02.646		FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ (or Δα) ANGLE*
MD	1900	1,253,209.77	229,380.59	+ 0 59 36
DE	0700	499,789.50	164,731.81	- 0 00 02

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE
AZ MK RM 2 1932 ^	91 08 25.3	90 08 49	1900
AZ MK RM 2 1932 ^	91 08 25.3	91 08 27	0700
AZ MK RM 2 1957 ^	130 48 28.0	129 48 52	1900
AZ MK RM 2 1957 ^	130 48 28.0	130 48 30	0700
AZ MK RM 4 1974	130 07 08.3	129 07 32	1900
AZ MK RM 4 1974	130 07 08.3	130 07 10	0700

^ RM 2 set in 1932 and in 1957 not recovered in 1974.

Additional descriptive information for this station may
be obtained from the National Geodetic Survey.

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MD DEL CORNER RM 4
ESTABLISHED BY: R.V. Tomlinson YEAR: 1962 STATE: Maryland-Delaware WHICH MARK ALSO ☐
RECOVERED BY: Lewis A. Lapine YEAR: 1974 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: Delmar, Delaware 6.0 miles West.
HEIGHT OF TELESCOPE ABOVE STATION MARK 92.1 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 100.5 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
COOPER 1934 RM 4				0° 00′ 00″.00
MD DEL CORNER 1932 (Traverse Dist.)	E	(30.87)	9.411	41 22 48.66
RM 2	SSE	81.95	24.978	107 26 46
RM 3	SW	153.68	(46.842)	184 05 28
Azimuth Mark	W	0.3	mile	210 48 24.0
RM 2 to RM 3		156.30	(47.640)	

The station mark, reference marks 2,3 and the azimuth mark were recovered and found in good condition. Boundary Monument Number 0 or 35-B that MD DEL CORNER 1932 disk is set, is leaning to the south as described in 1962. The horizontal directions and the distance checked the 1962 data adequate. A complete new description follows.

The station is located about 6.0 miles west of Delmar and at the southwest corner of Delaware and at the south end of the north and south line between Delaware--Maryland. It is on property owned by the States.

To reach the station from the railroad crossing and State Road 54 in Delmar, go west on State Road 54 for 4.8 miles to a Y-fork, continue west on State Road 54 for 1.2 miles to the Maryland-Delaware Corner and the station on the right. Continue west on State Road 54 for 0.3 mile to Old Railroad Road and the azimuth mark on the left.

Station marks are standard reference mark disks stamped MD DEL CORNER NO 4 1932. The surface disk is set in the top of a 12 inch square concrete monument that is 18 inches below the ground surface. It is 105 feet north of the centerline of State Road 54, 32 feet south of an 8-inch oak tree, 26 feet west of the northwest corner of a brick pillar, 15 feet east of a cedar tree and 8 feet west-northwest of an 8-inch maple tree. The underground disk is set in the top of an irregular mass of concrete 40 inches below the ground surface. Note 11a.

Reference mark 2, a standard disk stamped MD DEL CORNER NO 2 1932, is set in the top of a 12 inch square concrete monument that is 18 inches below the ground surface. It is 26 feet north of the centerline of State Road 54, 23 feet east of a 6-inch maple tree and 21 feet west of a 4-inch maple tree. Note 11a.

Reference mark 3, a standard disk stamped MD DEL CORNER NO 3 1932, is set in the top of a 12 inch square concrete monument that projects 2 inches above the ground surface. It is 27 feet north of the centerline of State Road 54. Note 11a.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MD. DE. CORNER RM 4
STATE: MARYLAND YEAR: 1962 SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE:	38° 27′ 35″.8687	ELEVATION:	9.3 METERS
GEODETIC LONGITUDE:	75 41 38.8436		31 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
DE	0700	420,547.38	167,622.61	− 0° 10′ 21″
MD	1900	1,173,931.45	230,877.69	+ 0 49 11

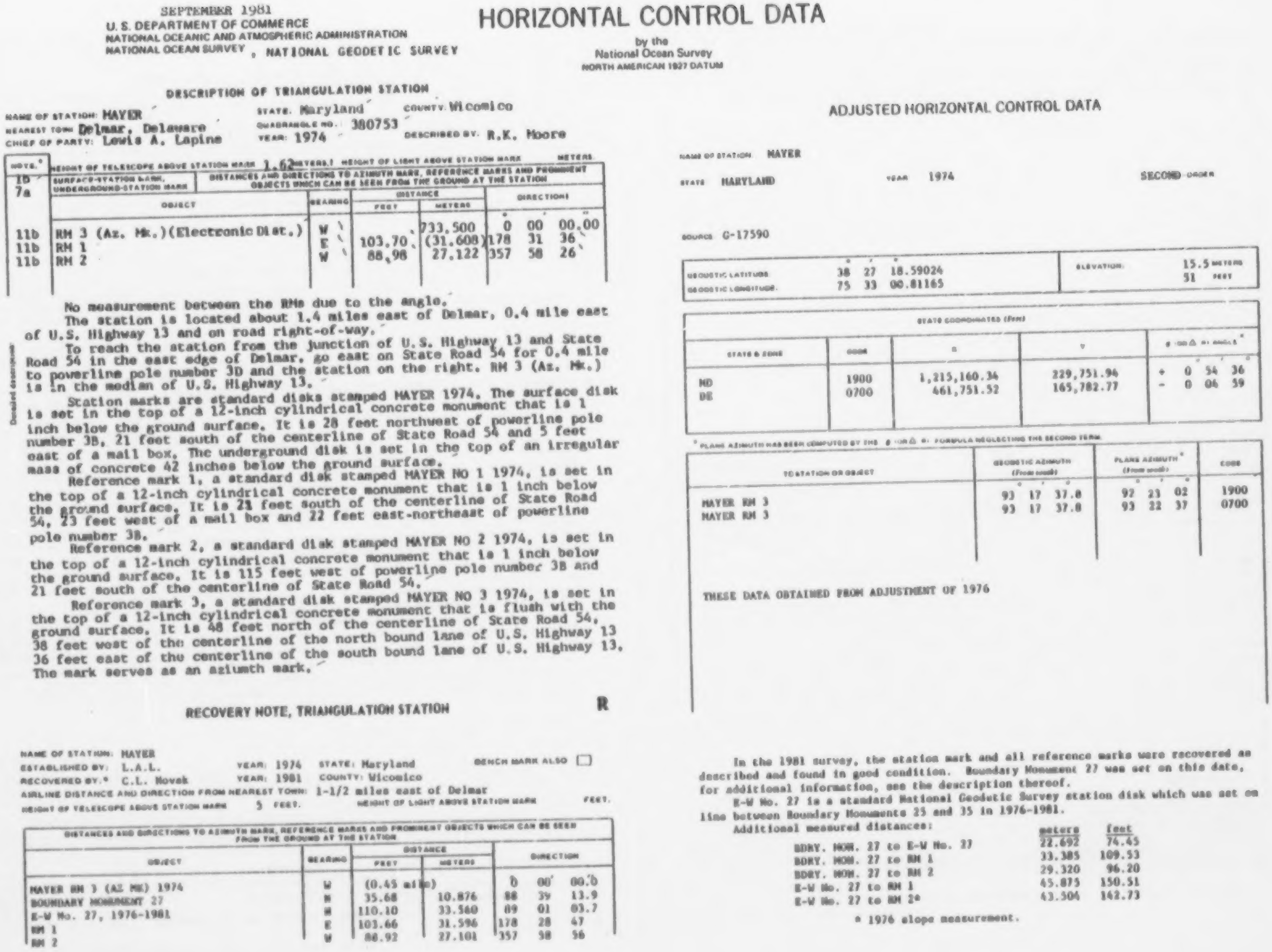
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	79° 13′ 32″.7	79° 23′ 54″	0700
AZIMUTH MARK	79 13 32.7	78 24 22	0700

Azimuth mark, a standard disk stamped MD DEL CORNER 1932 RESET 1962, is set in the top of a 12 inch square concrete monument that projects 2 inches above the ground surface. It is 55 feet south of the centerline of State Road 54, 24 feet east-southeast of the center of Old Railroad Road, 5 feet northeast of a stop sign and 1 foot east of a metal witness post. Note 16a.

MD DEL CORNER, a standard disk stamped MD DEL CORNER 1932, is cemented in a drill hole in the top of Boundary Monument Number 0 or 35-B that projects 30 inches above the ground surface. It has a 12 by 12 foot shelter erected over the monument. It is 3.8 feet south of Monument 35-A, which was established in 1760.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.



SEPTEMBER 1981
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MAYER
NEAREST TOWN: Delmar, Delaware
CHIEF OF PARTY: Lewis A. Lapine
STATE: Maryland
QUADRANGLE NO.: 380753
YEAR: 1974
COUNTY: Wicomico
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.62 METERS | HEIGHT OF LIGHT ABOVE STATION MARK METERS

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK				
15 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″
11b	RM 3 (Az. Mk.)(Electronic Dist.)	W		733.500	0 00 00.00
11b	RM 1	E	103.70	(31.608)	178 31 36
11b	RM 2	W	88.98	27.122	357 58 26

Detailed description

No measurement between the RMs due to the angle.

The station is located about 1.4 miles east of Delmar, 0.4 mile east of U.S. Highway 13 and on road right-of-way.

To reach the station from the junction of U.S. Highway 13 and State Road 54 in the east edge of Delmar, go east on State Road 54 for 0.4 mile to powerline pole number 3D and the station on the right. RM 3 (Az. Mk.) is in the median of U.S. Highway 13.

Station marks are standard disks stamped MAYER 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is 1 inch below the ground surface. It is 28 feet northwest of powerline pole number 3B, 21 feet south of the centerline of State Road 54 and 5 feet east of a mail box. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped MAYER NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is 1 inch below the ground surface. It is 21 feet south of the centerline of State Road 54, 23 feet west of a mail box and 22 feet east-northeast of powerline pole number 3B.

Reference mark 2, a standard disk stamped MAYER NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is 1 inch below the ground surface. It is 115 feet west of powerline pole number 3B and 21 feet south of the centerline of State Road 54.

Reference mark 3, a standard disk stamped MAYER NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 48 feet north of the centerline of State Road 54, 38 feet west of the centerline of the north bound lane of U.S. Highway 13, 36 feet east of the centerline of the south bound lane of U.S. Highway 13. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MAYER
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1981 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1-1/2 miles east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
MAYER RM 3 (AZ MK) 1974	W	(0.45 miles)		0 00 00.0
BOUNDARY MONUMENT 27	N	35.68	10.876	88 39 13.9
E-W No. 27, 1976-1981	N	110.10	33.560	89 01 03.7
RM 1	E	103.66	31.596	178 28 47
RM 2	W	88.92	27.101	357 58 56

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MAYER
STATE: MARYLAND YEAR: 1974 SECOND ORDER
SOURCE: G-17590

	° ′ ″		
GEODETIC LATITUDE	38 27 18.59024	ELEVATION	15.5 METERS
GEODETIC LONGITUDE	75 33 00.81165		51 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) αₜ ANGLE* ° ′ ″
MD	1900	1,215,160.34	229,751.94	+ 0 54 36
DE	0700	461,751.52	165,782.77	- 0 06 59

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) αₜ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
MAYER RM 3	93 17 37.8	92 23 02	1900
MAYER RM 3	93 17 37.8	93 22 37	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976

In the 1981 survey, the station mark and all reference marks were recovered as described and found in good condition. Boundary Monument 27 was set on this date, for additional information, see the description thereof.

E-W No. 27 is a standard National Geodetic Survey station disk which was set on line between Boundary Monuments 25 and 35 in 1976-1981.

Additional measured distances:

	meters	feet
BDRY. MON. 27 to E-W No. 27	22.692	74.45
BDRY. MON. 27 to RM 1	33.385	109.53
BDRY. MON. 27 to RM 2	29.320	96.20
E-W No. 27 to RM 1	45.875	150.51
E-W No. 27 to RM 2*	43.504	142.73

* 1976 slope measurement.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MELSON
NEAREST TOWN: Melson, Md.
CHIEF OF PARTY: Lewis A. Lapine
STATE: Md., Del. Line
QUADRANGLE NO.: 380752
YEAR: 1974
COUNTY: Wicomoco, Md. Sussex, Del.
DESCRIBED BY: A. G. Thacker

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.55 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1.35 METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK					
1b 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION	
Desc.	ZZ 60 1942 (BM) (Elec. Dist.)	W		282,149	00 00 00.00	
11b	RM 1	W	57.54	17.537	01 39 57	
11b	RM 2	N	81.74	24.915	73 36 59	
	RM 1 to RM 2		84.10	25.635		

Detailed description

The station is located about 5.5 miles east of Delmar, 2.2 miles south of Ward and 1 mile north of Melson and on road right-of-way.

To reach the station from the Post Office in Delmar, Delaware, go south on North First Street for 0.1 mile to the junction with Delaware State Highway 54. Turn left and go east on highway 54 for 0.9 mile to the junction with U. S. Highway 13, continue east on highway 54 for 4.2 miles to Melson Church Road on the right and Bench Mark ZZ 60 on the right. Continue east on highway 54 for 0.1 mile to the station on the right.

Station marks are standard disks stamped MELSON 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 39 feet south of the center of highway 54, 19 feet north of a 10-inch pine tree and 16 feet west-northwest of a field corner. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped MELSON NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 39 feet south of the center of the highway, 23 feet north-northeast of a 14-inch oak tree and 17 feet southeast of the center of a driveway.

Reference mark 2, a standard disk stamped MELSON NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 36 feet north of the center of the highway, 10 feet southwest of a field and 6 feet notheast of the east end of a culvert.

Azimuth Mark, a standard bench mark disk stamped ZZ 60 1942, is set in the top of a 4-inch square concrete monument that is flush with the ground surface. It is 35 feet south of the center of state highway 54, 25 feet east of the center of Melson Church Road and 2.5 feet east-northeast of "Melson Church Road" sign.

RECOVERY NOTE, TRIANGULATION STATION

MK

NAME OF STATION: MELSON
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 5 1/2 miles east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
BM ZZ 60 (AZ MK) (VG)	W	(0.1 mile)		0 00 00.00
RM 1	W	57.51	17.530	1 39 47
RM 2	N	81.74	24.915	73 37 03
BOUNDARY MONUMENT 23	N	23.73	7.233	89 29 39.6
Unable to measure between RM's				

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MELSON
STATE MARYLAND YEAR 1974 SECOND ORDER
SOURCE G-15790

	° ′ ″		
GEODETIC LATITUDE	38 27 12.41457	ELEVATION	19.3 METERS
GEODETIC LONGITUDE	75 28 28.55513		63 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) MAPPING ANGLE*
MD	1900	1,236,825.46	229,480.20	+ 0 57 27
DE	0700	483,409.08	165,135.53	− 0 02 10

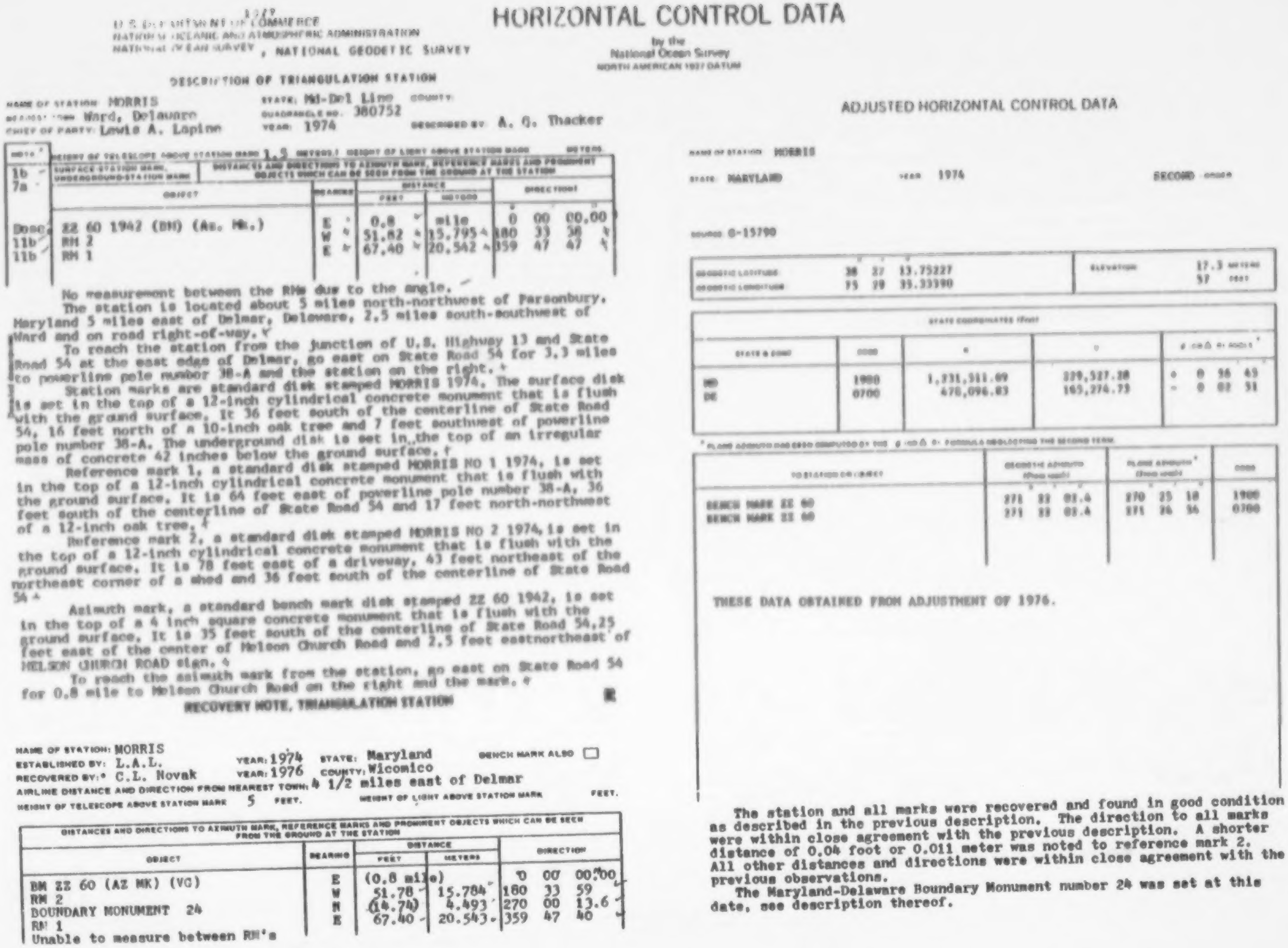
*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
BENCH MARK ZZ 60	91 52 23.2	90 54 57	1900
BENCH MARK ZZ 60	91 52 23.2	91 54 33	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition as described in the 1974 description. A shorter distance of 0.03 foot or 0.007 meter was noted to reference mark one. All other distances and directions were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number 23 was established at this date, see description thereof.



1329

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MORRIS
NEAREST TOWN: Ward, Delaware
CHIEF OF PARTY: Lewis A. Lapine
STATE: Md-Del Line COUNTY:
QUADRANGLE NO. 380752
YEAR: 1974
DESCRIBED BY: A. G. Thacker

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.5 METERS; HEIGHT OF LIGHT ABOVE STATION MARK METERS

NOTE*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
1b	SURFACE STATION MARK,				
7a	UNDERGROUND STATION MARK				
Desc	ZZ 60 1942 (BM) (Az. Mk.)	E	0.8	mile	0 00 00.00
11b	RM 2	W	51.82	15.795	180 33 38
11b	RM 1	E	67.40	20.542	359 47 47

No measurement between the RMs due to the angle.

The station is located about 5 miles north-northwest of Parsonbury, Maryland 5 miles east of Delmar, Delaware, 2.5 miles south-southwest of Ward and on road right-of-way.

To reach the station from the junction of U.S. Highway 13 and State Road 54 at the east edge of Delmar, go east on State Road 54 for 3.3 miles to powerline pole number 38-A and the station on the right.

Station marks are standard disk stamped MORRIS 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It 36 feet south of the centerline of State Road 54, 16 feet north of a 10-inch oak tree and 7 feet southwest of powerline pole number 38-A. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped MORRIS NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 64 feet east of powerline pole number 38-A, 36 feet south of the centerline of State Road 54 and 17 feet north-northwest of a 12-inch oak tree.

Reference mark 2, a standard disk stamped MORRIS NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 78 feet east of a driveway, 43 feet northeast of the northeast corner of a shed and 36 feet south of the centerline of State Road 54.

Azimuth mark, a standard bench mark disk stamped ZZ 60 1942, is set in the top of a 4 inch square concrete monument that is flush with the ground surface. It is 35 feet south of the centerline of State Road 54, 25 feet east of the center of Nelson Church Road and 2.5 feet eastnortheast of NELSON CHURCH ROAD sign.

To reach the azimuth mark from the station, go east on State Road 54 for 0.8 mile to Nelson Church Road on the right and the mark.

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MORRIS
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4 1/2 miles east of Delmar
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
BM ZZ 60 (AZ MK) (VG)	E	(0.8 mile)		0 00 00.00
RM 2	W	51.78	15.784	180 33 59
BOUNDARY MONUMENT 24	N	(14.74)	4.493	270 00 13.6
RM 1	E	67.40	20.543	359 47 40
Unable to measure between RM's				

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MORRIS
STATE: MARYLAND YEAR: 1976 SECOND ORDER
SOURCE: G-15790

GEODETIC LATITUDE	38 27 13.75227	ELEVATION 17.3 METERS
GEODETIC LONGITUDE	75 29 35.33390	57 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ = Δλ sin φ*
MD	1900	1,231,311.09	229,527.28	+ 0 56 43
DE	0700	478,096.83	165,274.73	- 0 02 51

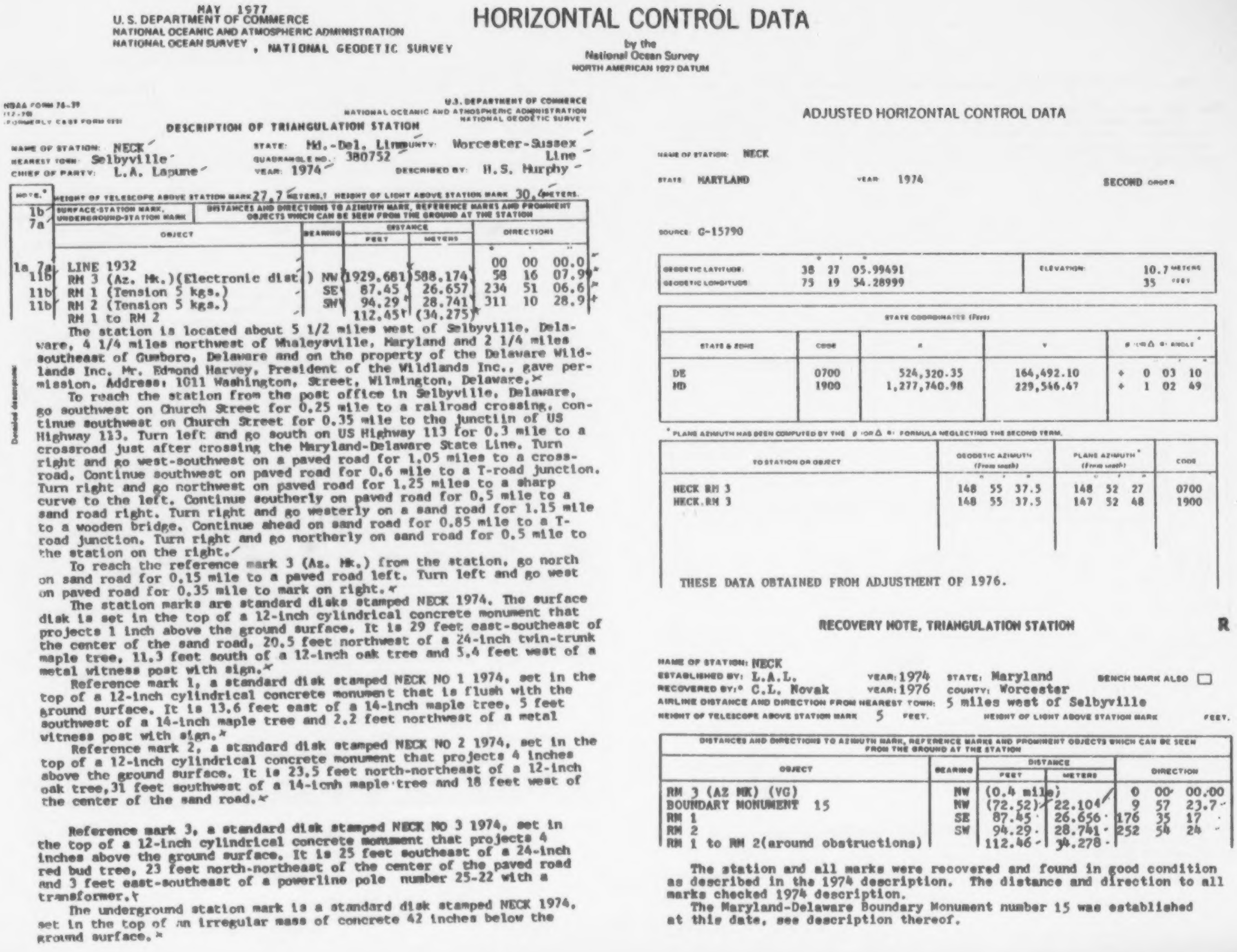
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BENCH MARK ZZ 60	271 22 03.4	270 25 18	1900
BENCH MARK ZZ 60	271 22 03.4	271 24 56	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition as described in the previous description. The direction to all marks were within close agreement with the previous description. A shorter distance of 0.04 foot or 0.011 meter was noted to reference mark 2. All other distances and directions were within close agreement with the previous observations.

The Maryland-Delaware Boundary Monument number 24 was set at this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 525)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: NECK
NEAREST TOWN: Selbyville
CHIEF OF PARTY: L.A. Lapune
STATE: Md.-Del. Line
COUNTY: Worcester-Sussex Line
QUADRANGLE NO.: 380752
YEAR: 1974
DESCRIBED BY: H.S. Murphy

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.7 METERS.] HEIGHT OF LIGHT ABOVE STATION MARK 30.4 METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK: 1b 7a						
	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE		DIRECTIONS		
			FEET	METERS	°	'	"
1a, 7a	LINE 1932				00	00	00.0
11b	RM 3 (Az. Mk.)(Electronic dist.)	NW	(1929.681)	588.174	58	16	07.9
11b	RM 1 (Tension 5 kgs.)	SE	87.45	26.657	234	51	06.6
11b	RM 2 (Tension 5 kgs.)	SW	94.29	28.741	311	10	28.9
	RM 1 to RM 2		112.45	(34.275)			

The station is located about 5 1/2 miles west of Selbyville, Delaware, 4 1/4 miles northwest of Whaleysville, Maryland and 2 1/4 miles southeast of Gumboro, Delaware and on the property of the Delaware Wildlands Inc. Mr. Edmond Harvey, President of the Wildlands Inc., gave permission. Address: 1011 Washington, Street, Wilmington, Delaware.

To reach the station from the post office in Selbyville, Delaware, go southwest on Church Street for 0.25 mile to a railroad crossing, continue southwest on Church Street for 0.35 mile to the junctiin of US Highway 113. Turn left and go south on US Highway 113 for 0.3 mile to a crossroad just after crossing the Maryland-Delaware State Line. Turn right and go west-southwest on a paved road for 1.05 miles to a crossroad. Continue southwest on paved road for 0.6 mile to a T-road junction. Turn right and go northwest on paved road for 1.25 miles to a sharp curve to the left. Continue southerly on paved road for 0.5 mile to a sand road right. Turn right and go westerly on a sand road for 1.15 mile to a wooden bridge. Continue ahead on sand road for 0.85 mile to a T-road junction. Turn right and go northerly on sand road for 0.5 mile to the station on the right.

To reach the reference mark 3 (Az. Mk.) from the station, go north on sand road for 0.15 mile to a paved road left. Turn left and go west on paved road for 0.35 mile to mark on right.

The station marks are standard disks stamped NECK 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that projects 1 inch above the ground surface. It is 29 feet east-southeast of the center of the sand road, 20.5 feet northwest of a 24-inch twin-trunk maple tree, 11.3 feet south of a 12-inch oak tree and 5.4 feet west of a metal witness post with sign.

Reference mark 1, a standard disk stamped NECK NO 1 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 13.6 feet east of a 14-inch maple tree, 5 feet southwest of a 14-inch maple tree and 2.2 feet northwest of a metal witness post with sign.

Reference mark 2, a standard disk stamped NECK NO 2 1974, set in the top of a 12-inch cylindrical concrete monument that projects 4 inches above the ground surface. It is 23.5 feet north-northeast of a 12-inch oak tree,31 feet southwest of a 14-icnh maple tree and 18 feet west of the center of the sand road.

Reference mark 3, a standard disk stamped NECK NO 3 1974, set in the top of a 12-inch cylindrical concrete monument that projects 4 inches above the ground surface. It is 25 feet southeast of a 24-inch red bud tree, 23 feet north-northeast of the center of the paved road and 3 feet east-southeast of a powerline pole number 25-22 with a transformer.

The underground station mark is a standard disk stamped NECK 1974, set in the top of an irregular mass of concrete 42 inches below the ground surface.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NECK
STATE: MARYLAND
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

	°	'	"		
GEODETIC LATITUDE:	38	27	05.99491	ELEVATION:	10.7 METERS
GEODETIC LONGITUDE:	75	19	54.28999		35 FEET

STATE COORDINATES (Feet)							
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*			
					°	'	"
DE	0700	524,320.35	164,492.10	+	0	03	10
MD	1900	1,277,740.98	229,546.47	+	1	02	49

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)			PLANE AZIMUTH* (From south)			CODE
	°	'	"	°	'	"	
NECK RM 3	148	55	37.5	148	52	27	0700
NECK.RM 3	148	55	37.5	147	52	48	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

RECOVERY NOTE, TRIANGULATION STATION

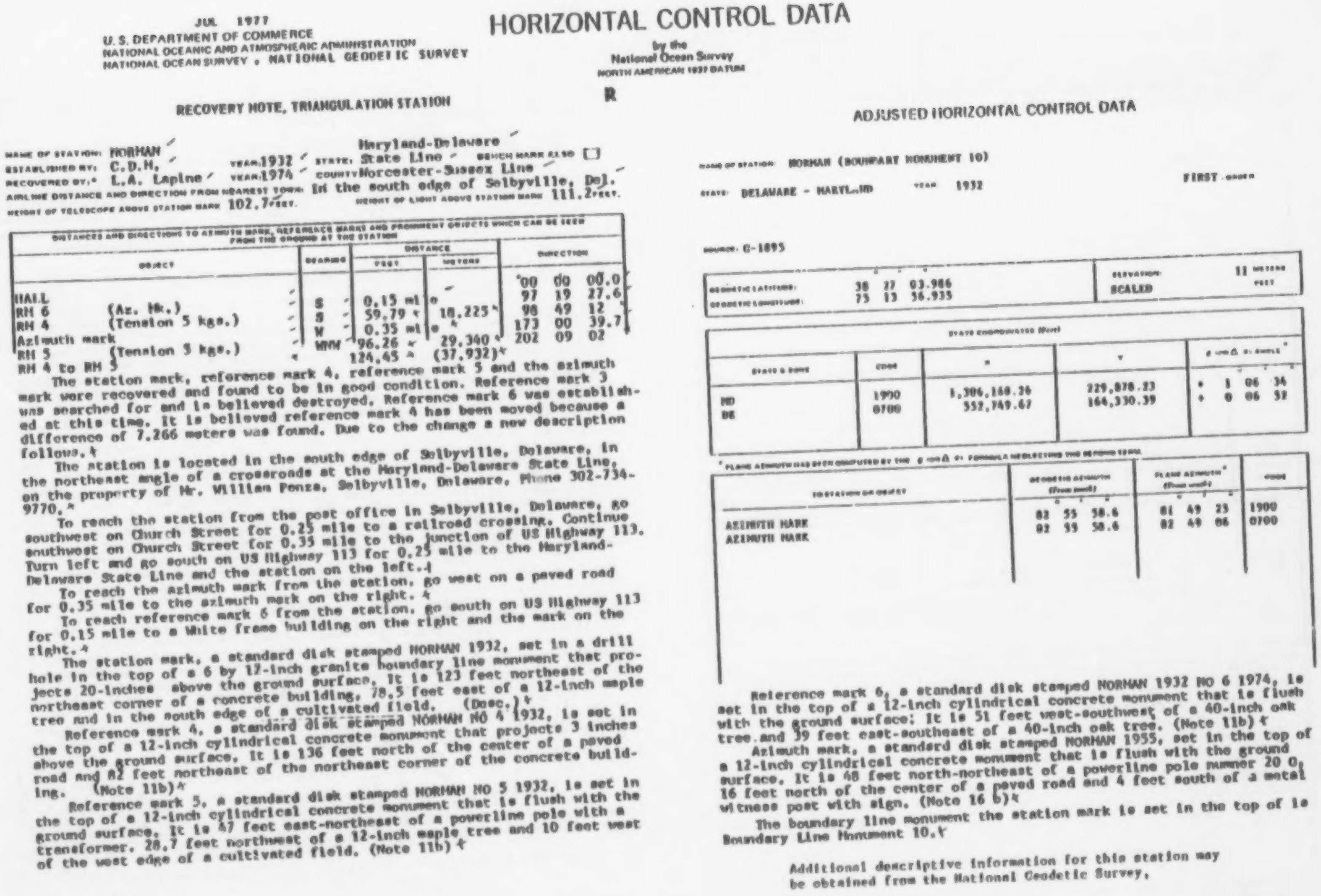
R

NAME OF STATION: NECK
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Worcester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 5 miles west of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
OBJECT	BEARING	DISTANCE		DIRECTION		
		FEET	METERS			
RM 3 (AZ MK) (VG)	NW	(0.4 mile)		0	00	00.00
BOUNDARY MONUMENT 15	NW	(72.52)	22.104	9	57	23.7
RM 1	SE	87.45	26.656	176	35	17
RM 2	SW	94.29	28.741	252	54	24
RM 1 to RM 2(around obstructions)		112.46	34.278			

The station and all marks were recovered and found in good condition as described in the 1974 description. The distance and direction to all marks checked 1974 description.

The Maryland-Delaware Boundary Monument number 15 was established at this date, see description thereof.



JUL 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: NORMAN
STATE: Maryland-Delaware State Line
BENCH MARK ALSO ☐
ESTABLISHED BY: C.D.H.
YEAR: 1932
COUNTY: Worcester-Sussex Line
RECOVERED BY: L.A. Lapine
YEAR: 1974
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: In the south edge of Selbyville, Del.
HEIGHT OF TELESCOPE ABOVE STATION MARK 102.7 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK 111.2 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT		BEARING	DISTANCE		DIRECTION		
			FEET	METERS			
					00	00	00.0
HALL		S	0.15 mi		97	19	27.6
RM 6	(Az. Mk.)	S	59.79	18.225	98	49	12
RM 4	(Tension 5 kgs.)	W	0.35 mi		173	00	39.7
Azimuth mark		WNW	96.26	29.340	202	09	02
RM 5	(Tension 5 kgs.)		124.45	(37.932)			
RM 4 to RM 5							

The station mark, reference mark 4, reference mark 5 and the azimuth
mark were recovered and found to be in good condition. Reference mark 3
was searched for and is believed destroyed. Reference mark 6 was establish-
ed at this time. It is believed reference mark 4 has been moved because a
difference of 7.266 meters was found. Due to the change a new description
follows.

The station is located in the south edge of Selbyville, Delaware, in
the northeast angle of a crossroads at the Maryland-Delaware State Line,
on the property of Mr. William Penza, Selbyville, Delaware, Phone 302-734-
9770.

To reach the station from the post office in Selbyville, Delaware, go
southwest on Church Street for 0.25 mile to a railroad crossing. Continue
southwest on Church Street for 0.35 mile to the junction of US Highway 113.
Turn left and go south on US Highway 113 for 0.25 mile to the Maryland-
Delaware State Line and the station on the left.

To reach the azimuth mark from the station, go west on a paved road
for 0.35 mile to the azimuth mark on the right.

To reach reference mark 6 from the station, go south on US Highway 113
for 0.15 mile to a White frame building on the right and the mark on the
right.

The station mark, a standard disk stamped NORMAN 1932, set in a drill
hole in the top of a 6 by 17-inch granite boundary line monument that pro-
jects 20-inches above the ground surface. It is 123 feet northeast of the
northeast corner of a concrete building, 78.5 feet east of a 12-inch maple
tree and in the south edge of a cultivated field. (Desc.)

Reference mark 4, a standard disk stamped NORMAN NO 4 1932, is set in
the top of a 12-inch cylindrical concrete monument that projects 3 inches
above the ground surface. It is 136 feet north of the center of a paved
road and 82 feet northeast of the northeast corner of the concrete build-
ing. (Note 11b)

Reference mark 5, a standard disk stamped NORMAN NO 5 1932, is set in
the top of a 12-inch cylindrical concrete monument that is flush with the
ground surface. It is 47 feet east-northeast of a powerline pole with a
transformer, 28.7 feet northwest of a 12-inch maple tree and 10 feet west
of the west edge of a cultivated field. (Note 11b)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NORMAN (BOUNDARY MONUMENT 10)
STATE: DELAWARE - MARYLAND
YEAR: 1932
FIRST ORDER

SOURCE: G-1895

GEODETIC LATITUDE:	38	27	03.986	ELEVATION: SCALED	11 METERS
GEODETIC LONGITUDE:	75	13	56.935		FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	x	y	θ = Δλ sin φ ANGLE*		
				°	′	″
MD	1900	1,306,160.26	229,878.23	+ 1	06	34
DE	0700	552,749.67	164,330.39	+ 0	06	32

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)			PLANE AZIMUTH* (From south)			CODE
	°	′	″	°	′	″	
AZIMUTH MARK	82	55	58.6	81	49	25	1900
AZIMUTH MARK	82	55	58.6	82	49	06	0700

Reference mark 6, a standard disk stamped NORMAN 1932 NO 6 1974, is
set in the top of a 12-inch cylindrical concrete monument that is flush
with the ground surface. It is 51 feet west-southwest of a 40-inch oak
tree and 39 feet east-southeast of a 40-inch oak tree. (Note 11b)

Azimuth mark, a standard disk stamped NORMAN 1955, set in the top of
a 12-inch cylindrical concrete monument that is flush with the ground
surface. It is 48 feet north-northeast of a powerline pole number 20 0,
16 feet north of the center of a paved road and 4 feet south of a metal
witness post with sign. (Note 16 b)

The boundary line monument the station mark is set in the top of is
Boundary Line Monument 10.

Additional descriptive information for this station may
be obtained from the National Geodetic Survey.

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: NORTH FORK
STATE: Md.-Del.Line
COUNTY:
NEAREST TOWN: Pittsville
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.55 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″
1b 7a	SURFACE-STATION MARK, UNDERGROUND-STATION MARK				
11b	BETHEL RM 3 (Az. Mk.) (Ele.Dis.)	E	(1598.93)	487.360	0 00 00.00
1b7a	GUMBORO (Electronic Distance)	W	(5653.46)	1723.196	181 37 08.06
11b	RM 2	NW	61.03	18.602	216 15 27.8
11b	RM 1	NE	60.36	18.401	325 30 32.0
	RM 1 to RM 2		98.96	(30.163)	

The station is located about 4 miles northeast of Pittsville, 2 miles south-southwest of Gumboro, 1 mile west of Bethel, 1 mile east of the junction of Maryland State Road 353 and Delaware State Road 54 and on road right-of-way.

To reach the station from the Ayers Methodist Church in Pittsville, Maryland, go north on Maryland State Road 353 for 4.0 miles to the junction with Delaware State Road 54 and the Maryland-Delaware State Line. Turn right and go east on a paved road for 1.05 miles to a field road on the right and the station. Continue east on the paved road for 0.5 mile to a paved crossroad and BETHEL RM 3 (Az. Mk.) on the left.

Station marks are standard disk stamped NORTH FORK 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 17 feet south of the center of the paved road and 8 feet north of the north edge of a field. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped NORTH FORK NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 20 feet north of the center of the paved road and 6 feet south of a ditch.

Reference mark 2, a standard disk stamped NORTH FORK NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 19 feet north of the center of the paved road and 6 feet south of the ditch.

Reference mark 3, a standard disk stamped BETHEL NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 43 feet northwest of the intersection of the paved road, 31 feet west of the center of the paved road and 4 feet north of a stop sign. The mark serves as an azimuth mark.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: NORTH FORK
ESTABLISHED BY: L.A.L.
YEAR: 1974
STATE: Maryland
BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak
YEAR: 1976
COUNTY: Wicomico
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 8 miles east of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
BETHEL RM 3 (AZ MK) (VG)	E	(0.3 mile)		0 00 00.00
RM 2	NW	60.99	18.589	216 14 41
BOUNDARY MONUMENT 18	N	(63.47)	19.346	272 05 41.6
RM 1		60.33	18.388	325 29 59
RM 1 to RM 2		98.94	30.159	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: NORTH FORK
STATE: MARYLAND
YEAR: 1974
SECOND ORDER

SOURCE: G-15790

	° ′ ″	ELEVATION	
GEODETIC LATITUDE:	38 27 07.08667		12.6 METERS
GEODETIC LONGITUDE:	75 22 27.41041		41 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE* ° ′ ″
MD	1900	1,265,559.93	229,437.14	+ 1 01 13
DE	0700	512,139.01	164,594.13	+ 0 01 35

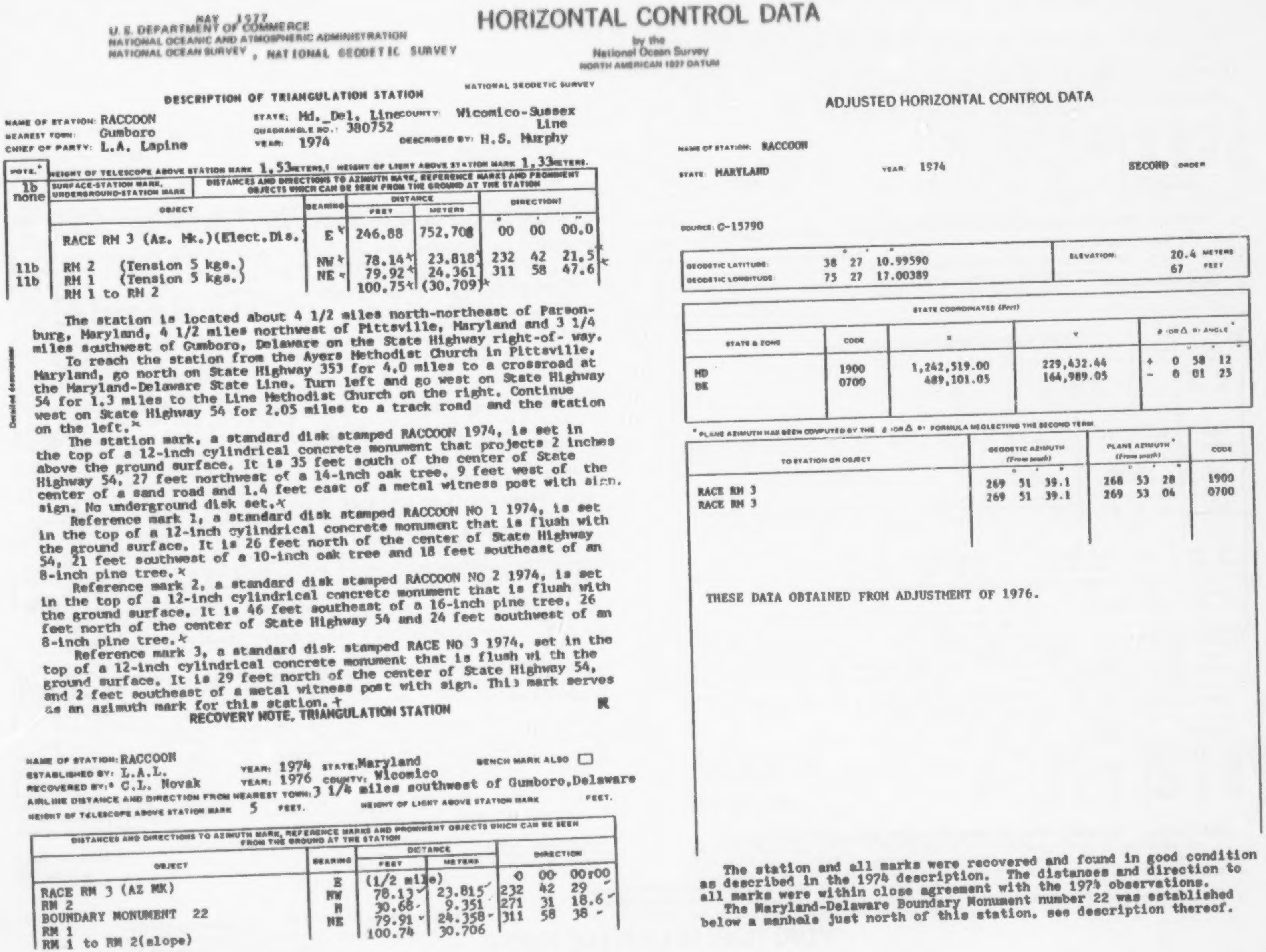
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
BETHEL RM 3	268 23 37.8	267 22 24	1900
BETHEL RM 3	268 23 37.8	268 22 03	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition. The direction between all marks were within close agreement with the 1974 observations. A shorter distance of 0.05 foot or 0.013 meter was noted to reference mark one. A shorter distance of 0.04 foot or 0.013 meter was noted to reference mark 2.

The Maryland-Delaware Boundary Monument number 18 was set at this date, see description thereof.



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: RACCOON
NEAREST TOWN: Gumboro
CHIEF OF PARTY: L.A. Lapine
STATE: Md._Del. Line
COUNTY: Wicomico-Sussex Line
QUADRANGLE NO.: 380752
YEAR: 1974
DESCRIBED BY: H.S. Murphy

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.53 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1.33 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
1b none	SURFACE-STATION MARK, UNDERGROUND-STATION MARK						
	RACE RM 3 (Az. Mk.)(Elect.Dis.)	E	246.88	752.708	00	00	00.0
11b	RM 2 (Tension 5 kgs.)	NW	78.14	23.818	232	42	21.5
11b	RM 1 (Tension 5 kgs.)	NE	79.92	24.361	311	58	47.6
	RM 1 to RM 2		100.75	(30.709)			

Detailed description

The station is located about 4 1/2 miles north-northeast of Parsonburg, Maryland, 4 1/2 miles northwest of Pittsville, Maryland and 3 1/4 miles southwest of Gumboro, Delaware on the State Highway right-of- way.

To reach the station from the Ayers Methodist Church in Pittsville, Maryland, go north on State Highway 353 for 4.0 miles to a crossroad at the Maryland-Delaware State Line. Turn left and go west on State Highway 54 for 1.3 miles to the Line Methodist Church on the right. Continue west on State Highway 54 for 2.05 miles to a track road and the station on the left.

The station mark, a standard disk stamped RACCOON 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 2 inches above the ground surface. It is 35 feet south of the center of State Highway 54, 27 feet northwest of a 14-inch oak tree, 9 feet west of the center of a sand road and 1.4 feet east of a metal witness post with sign. sign. No underground disk set.

Reference mark 1, a standard disk stamped RACCOON NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 26 feet north of the center of State Highway 54, 21 feet southwest of a 10-inch oak tree and 18 feet southeast of an 8-inch pine tree.

Reference mark 2, a standard disk stamped RACCOON NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 46 feet southeast of a 16-inch pine tree, 26 feet north of the center of State Highway 54 and 24 feet southwest of an 8-inch pine tree.

Reference mark 3, a standard disk stamped RACE NO 3 1974, set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 29 feet north of the center of State Highway 54, and 2 feet southeast of a metal witness post with sign. This mark serves as an azimuth mark for this station.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: RACCOON
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Wicomico
BENCH MARK ALSO ☐
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 1/4 miles southwest of Gumboro, Delaware
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RACE RM 3 (AZ MK)	E	(1/2 mile)		0 00 00:00
RM 2	NW	78.13	23.815	232 42 29
BOUNDARY MONUMENT 22	N	30.68	9.351	271 31 18.6
RM 1	NE	79.91	24.358	311 58 38
RM 1 to RM 2(slope)		100.74	30.706	

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RACCOON
STATE: MARYLAND YEAR: 1974 SECOND ORDER

SOURCE: G-15790

	°	′	″		
GEODETIC LATITUDE:	38	27	10.99590	ELEVATION:	20.4 METERS
GEODETIC LONGITUDE:	75	27	17.00389		67 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
MD	1900	1,242,519.00	229,432.44	+ 0 58 12
DE	0700	489,101.05	164,989.05	- 0 01 25

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
RACE RM 3	269 51 39.1	268 53 28	1900
RACE RM 3	269 51 39.1	269 53 04	0700

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

The station and all marks were recovered and found in good condition as described in the 1974 description. The distances and direction to all marks were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number 22 was established below a manhole just north of this station, see description thereof.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY,

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
12-70
FORMERLY C&GS FORM 525

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: RACE
STATE: Md-Del.-Line
COUNTY: Wicomico-Sussex
NEAREST TOWN: Whitesville, Dela.
QUADRANGLE NO.: 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.56 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
1b 7a	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
	LINE 1932				0	00	00.00
11b	RM 2	WSW	60.01	18.291	155	48	45.4
11b	RM 3 (Az. MK.) (Electronic Dist)	W		569.297	181	49	49.44
11b	RM 1	NE	80.95	24.673	321	10	55.4

Detailed description

No measurement between the RMs due to building on line.

The station is located about 4 miles southwest of Gumboro, Delaware, 4 miles north-northwest of Pittsville, Maryland and 0.7 mile southwest of Whitesville, Delaware and on road right-of-way.

To reach the station from the Ayers Methodist Church in Pittsville, go north on Maryland State Road 353 for 4.0 miles to the junction with Delaware State Road 54 and the Maryland-Delaware State Line. Turn left and go west on Delaware State Road 54 for 1.3 miles to the Line Methodist Church on the right, continue west on State Road 54 for 1.05 miles to Mr. R.E. Timmons mail box on the left and the station.

Station marks are standard disks stamped RACE 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 30 feet south of the centerline of State Road 54, 12 feet north of the northeast corner of a red chicken house and 7 feet southwest of Mr. R.E. Timmons mail box. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped RACE NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 54 feet east-southeast of a telephone pole and 23 feet north of the centerline of State Road 54.

Reference mark 2, a standard disk stamped RACE NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 34 feet south of the centerline of State Road 54, 11 feet south-southeast of a telephone pole and 29 feet west-southwest of the northwest corner of the chicken house.

Reference mark 3, a standard disk stamped RACE NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 29 feet north of the centerline of State Road 54 and 2 feet southeast of a metal witness post. The mark serves as an azimuth mark.

To reach reference mark 3 from the station, go west on State Road 54 for 0.5 mile to the mark on the right.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RACE
STATE: MARYLAND
YEAR: 1974
SECOND ORDER

SOURCE: G-15790

	°	′	″		
GEODETIC LATITUDE:	38	27	10.05997	ELEVATION:	19.9 METERS
GEODETIC LONGITUDE:	75	26	22.51798		65 FEET

STATE COORDINATES (Feet)							
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE* °	′	″
MD	1900	1,246,854.38	229,411.50	+ 0	38	46
DE	0700	493,435.49	164,892.93	- 0	00	51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
RACE RM 3	93	05	18.1	92	06	32	1900
RACE RM 3	93	05	18.1	93	06	09	0700

RECOVERY NOTE, TRIANGULATION STATION

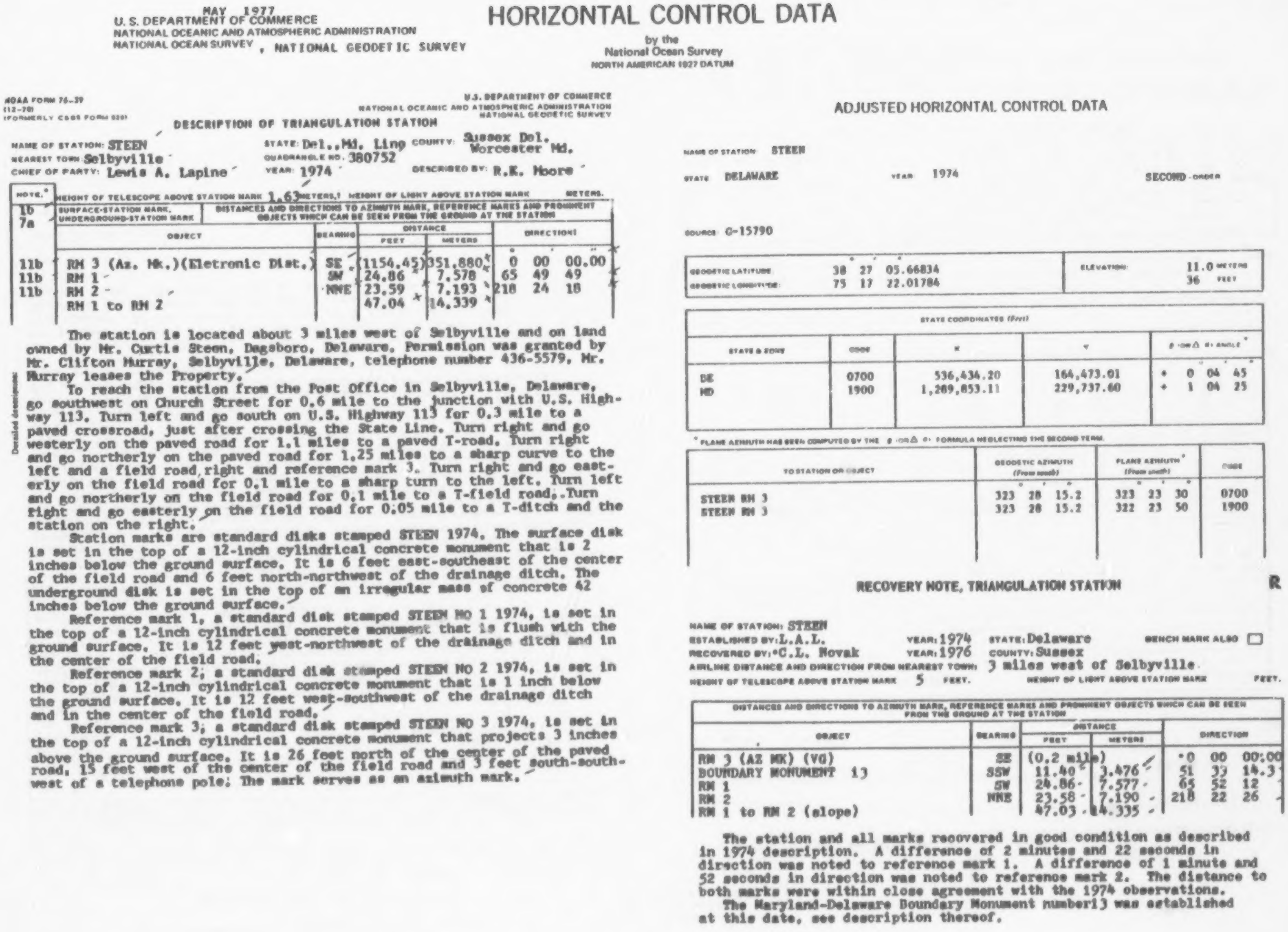
R

NAME OF STATION: RACE
ESTABLISHED BY: L.A.L.
YEAR: 1974
STATE: Maryland
RECOVERED BY:* C.L. Novak
YEAR: 1976
COUNTY: Wicomico
BENCH MARK ALSO ☐
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 4 miles north-northwest of Pittsville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
AZIMUTH MARK (VG) (RM 3)	W	(0.35 mile)		0	00	00.00
BOUNDARY MONUMENT 21	N	20.53	6.258	88	18	09.8
RM 1	NE	80.98	24.681	139	19	37
RM 2	WSW	59.97	18.281	334	00	20

The station and all marks were recovered and found in good condition as described. The direction to all marks agreed with the 1974 observations. A longer distance of 0.03 foot or 0.008 meter was noted to reference mark 1. A shorter distance of 0.04 foot or 0.010 meter was noted to reference mark 2.

The Maryland-Delaware Boundary Monument number 21 was established at this date, see description thereof.



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)
(FORMERLY C&GS FORM 520)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: STEEN
STATE: Del.,Md. Line
COUNTY: Sussex Del. Worcester Md.
NEAREST TOWN: Selbyville
QUADRANGLE NO. 380752
CHIEF OF PARTY: Lewis A. Lapine
YEAR: 1974
DESCRIBED BY: R.K. Moore

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1.63 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

1b SURFACE-STATION MARK,
7a UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION† °	′	″
11b	RM 3 (Az. Mk.)(Eletronic Dist.)	SE	(1154.45)	351.880	0	00	00.00
11b	RM 1	SW	24.86	7.578	65	49	49
11b	RM 2	NNE	23.59	7.193	218	24	18
	RM 1 to RM 2		47.04	14.339			

Detailed description:

The station is located about 3 miles west of Selbyville and on land owned by Mr. Curtis Steen, Dagsboro, Delaware. Permission was granted by Mr. Clifton Murray, Selbyville, Delaware, telephone number 436-5579. Mr. Murray leases the Property.

To reach the station from the Post Office in Selbyville, Delaware, go southwest on Church Street for 0.6 mile to the junction with U.S. Highway 113. Turn left and go south on U.S. Highway 113 for 0.3 mile to a paved crossroad, just after crossing the State Line. Turn right and go westerly on the paved road for 1.1 miles to a paved T-road. Turn right and go northerly on the paved road for 1.25 miles to a sharp curve to the left and a field road, right and reference mark 3. Turn right and go easterly on the field road for 0.1 mile to a sharp turn to the left. Turn left and go northerly on the field road for 0.1 mile to a T-field road. Turn right and go easterly on the field road for 0.05 mile to a T-ditch and the station on the right.

Station marks are standard disks stamped STEEN 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is 2 inches below the ground surface. It is 6 feet east-southeast of the center of the field road and 6 feet north-northwest of the drainage ditch. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped STEEN NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 12 feet west-northwest of the drainage ditch and in the center of the field road.

Reference mark 2, a standard disk stamped STEEN NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is 1 inch below the ground surface. It is 12 feet west-southwest of the drainage ditch and in the center of the field road.

Reference mark 3, a standard disk stamped STEEN NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that projects 3 inches above the ground surface. It is 26 feet north of the center of the paved road, 15 feet west of the center of the field road and 3 feet south-southwest of a telephone pole. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION STEEN
STATE DELAWARE
YEAR 1974
SECOND-ORDER
SOURCE G-15790

	°	′	″		
GEODETIC LATITUDE	38	27	05.66834	ELEVATION	11.0 METERS
GEODETIC LONGITUDE	75	17	22.01784		36 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	536,434.20	164,473.01	+ 0 04 45
MD	1900	1,289,853.11	229,737.60	+ 1 04 25

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
STEEN RM 3	323 28 15.2	323 23 30	0700
STEEN RM 3	323 28 15.2	322 23 50	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: STEEN
ESTABLISHED BY: L.A.L.
YEAR: 1974
STATE: Delaware
BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak
YEAR: 1976
COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles west of Selbyville.
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.
HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VG)	SE	(0.2 mile)		0 00 00.00
BOUNDARY MONUMENT 13	SSW	11.40	3.476	51 33 14.3
RM 1	SW	24.86	7.577	65 52 12
RM 2	NNE	23.58	7.190	218 22 26
RM 1 to RM 2 (slope)		47.03	14.335	

The station and all marks recovered in good condition as described in 1974 description. A difference of 2 minutes and 22 seconds in direction was noted to reference mark 1. A difference of 1 minute and 52 seconds in direction was noted to reference mark 2. The distance to both marks were within close agreement with the 1974 observations.

The Maryland-Delaware Boundary Monument number13 was established at this date, see description thereof.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SLAB
NEAREST TOWN: Bishopville, Md.
CHIEF OF PARTY: Lewis A. Lapine
STATE: Del., Md. Line
COUNTY: Sussex Del, Worcester Md.
QUADRANGLE NO. 380752
YEAR: 1974
DESCRIBED BY: A. G. Thacker

NOTE.*: 1b 7a

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.48 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS
11b	RM 3 (Az. Mk.)(Electronic Dist.)	NW		373.614	00 00 00.00
11b	RM 2	NNW	76.16	23.215	33 30 36
11b	RM 1	ESE	64.36	19.616	189 13 27
	RM 1 to RM 2		137.40	41.880	

Detailed description

The station is located about 3.4 miles west-southwest of Williamsville, 1.6 miles east-southeast of Selbyville, 0.6 mile north of Bishopville and on road right-of way and near the Maryland-Delaware state line.

To reach the station from the post office in Bishopville, go northeast on paved road for 0.4 mile to a side road on the left. Turn left and go northwest on a paved road for 0.4 mile to the state line and the station on the left. Continue northwest on the paved road for 0.2 mile to reference mark 3 on the left.

Station marks are standard disks stamped SLAB 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 66 feet southeast of a powerline pole with a transformer, 15 feet southwest of the center of the paved road and 4 feet northwest of a Maryland-Delaware state line sign. The underground disk is set in the top of an irregular mass of concrete 42 inches below the ground surface.

Reference mark 1, a standard disk stamped SLAB NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 60 feet southeast of the Maryland-Delaware state line sign, 30 feet northwest of a powerline pole, 14 feet southwest of the center of the paved road and 2 feet northeast of a speed-limit sign.

Reference mark 2, a standard disk stamped SLAB NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 19 feet northeast of the paved road and 4 feet north of a powerline pole.

Reference mark 3, a standard disk stamped SLAB NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 97 feet northwest of a powerline pole with a transformer, 51 feet south-southeast of a 36-inch pine tree, 13 feet southwest of the center of the paved road and 2 feet east of a metal highway sign. The mark serves as an azimuth mark.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SLAB
STATE: DELAWARE
YEAR: 1974
SECOND ORDER
SOURCE: G-15790

GEODETIC LATITUDE	38° 27′ 04.14521″	ELEVATION	8.0 METERS
GEODETIC LONGITUDE	75 11 45.45166		26 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE*
DE	0700	563,209.70	164,369.48	+ 0 08 14
MD	1900	1,316,625.82	230,098.93	+ 1 07 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
SLAB RM 3	128° 18′ 48.2″	128° 10′ 34″	0700
SLAB RM 3	128 18 48.2	127 10 52	1900

RECOVERY NOTE, TRIANGULATION STATION

K

NAME OF STATION: SLAB
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles east of Selbyville
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VG)	NW	(0.2 mile)		0 00 00.00
RM 2	NNW	76.17	23.217	33 30 30
BOUNDARY MONUMENT 8	SE	27.44	8.364	187 40 57.8
RM 1	ESE	64.35	19.614	189 13 42
RM 1 to RM 2 (slope)		137.39	41.876	

The station and all marks were recovered and found in good condition as described in the 1974 description. The distance and direction to all marks checked 1974 observations.

The Maryland-Delaware Boundary Monument number 8 was established at this date, see description thereof.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TOWNSEND STATE: Md-Del Line COUNTY: Wicomico-Sussex
NEAREST TOWN: Delmar, Delaware QUADRANGLE NO.: 380753
CHIEF OF PARTY: Lewis A. Lapine YEAR: 1974 DESCRIBED BY: R.K. Moore

HEIGHT OF TELESCOPE ABOVE STATION MARK 32.24 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34.89 METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
1b 7a	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
	LINE 1932				0° 00′ 00.00″
Desc	BOUNDARY MONUMENT 25 (Electronic Distance)	ESE	(207.90)	63.370	19 50 50.34
Desc	BOUNDARY MONUMENT 25 OFFSET (Electronic Distance)	ESE	(213.22)	64.992	23 15 29.61
11b	RM 2	SW	220.45	(67.193)	154 15 24.1
11b	ANDREWS RM 3 (Az. Mk.)(Ele.Dis)	W		1087.325	179 05 36.5
11b	RM 1	E	133.99	(40.840)	352 50 49.3

Detailed description

No measurement between RMs due to heavy traffic.

The station is located about 5.0 miles northwest of Parsonsbury, Maryland, 3.7 miles east of Delmar, 2.6 miles southwest of Ward, Delaware and on land owned by Mr. Preston Townsend, Millsbury, Delaware.

To reach the station from the junction of U.S. Highway 13 and State Road 54 at the east edge of Delmar, go east on State Road 54 for 1.8 miles to a paved side road right and reference mark 3 on the right, continue east on State Road 54 for 0.5 mile to a paved side road left and the station in the northwest angle of the paved road and State Road 54.

Station marks are standard disks stamped TOWNSEND 1974. The surface disk is set in the top of a 12-inch cylindrical concrete monument that is 18 inches below the ground surface. It is 88 feet west of the center of the paved road, 53 feet north of the centerline of State Road 54, 31 feet northeast of telephone pole number 623-85 and 29 feet west-northwest of a telephone pole. The underground disk is set in the top of an irregular mass of concrete 40 inches below the ground surface.

Reference mark 1, a standard disk stamped TOWNSEND NO 1 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 70 feet north of the centerline of State Road 54, 23 feet east-southeast of the center of the paved road and 4 feet southwest of powerline pole number 2D.

Reference mark 2, a standard disk stamped TOWNSEND NO 2 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 43 feet south-southwest of the centerline of State Road 54, 23 feet east of the center of RUM RIDGE Road and 2 feet north-northeast of RUM RIDGE ROAD sign.

Reference mark 3, a standard disk stamped ANDREWS NO 3 1974, is set in the top of a 12-inch cylindrical concrete monument that is flush with the ground surface. It is 53 feet east of the center of Melson Road, 27 feet south of the centerline of State Road 54, 8 feet northwest of powerline pole number 48B-10 and 4 feet east-southeast of MELSON ROAD sign. The mark serves as an azimuth mark.

BOUNDARY MONUMENT 25, is an iron pin set in an irregluar mass of concrete 18 inches below the ground surface. It is 13.8 feet north of the old Boundary Monument, which was offset when the Highway was under construction and 9 feet south of the centerline of State Road 54.

BOUNDARY MONUMENT 25 OFFSET, a 6 by 10 inch granite monument that projects 2 feet above the ground surface. It is 22.8 feet south of the centerline of State Road 54 and 13.8 feet south of Boundary Monument 25.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TOWNSEND
STATE: DELAWARE YEAR: 1974 SECOND ORDER

SOURCE: C-15790

GEODETIC LATITUDE:	38° 27′ 15.75519″	ELEVATION:	16.2 METERS
GEODETIC LONGITUDE:	75 30 37.54718		53 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	473,147.89	165,481.92	− 0° 03′ 30″
MD	1900	1,226,559.99	229,648.65	+ 0 56 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
ANDREWS RM 3	90° 36′ 15.8″	90° 39′ 46″	0700
ANDREWS RM 3	90 36 15.8	89 40 10	1900

THESE DATA OBTAINED FROM ADJUSTMENT OF 1976.

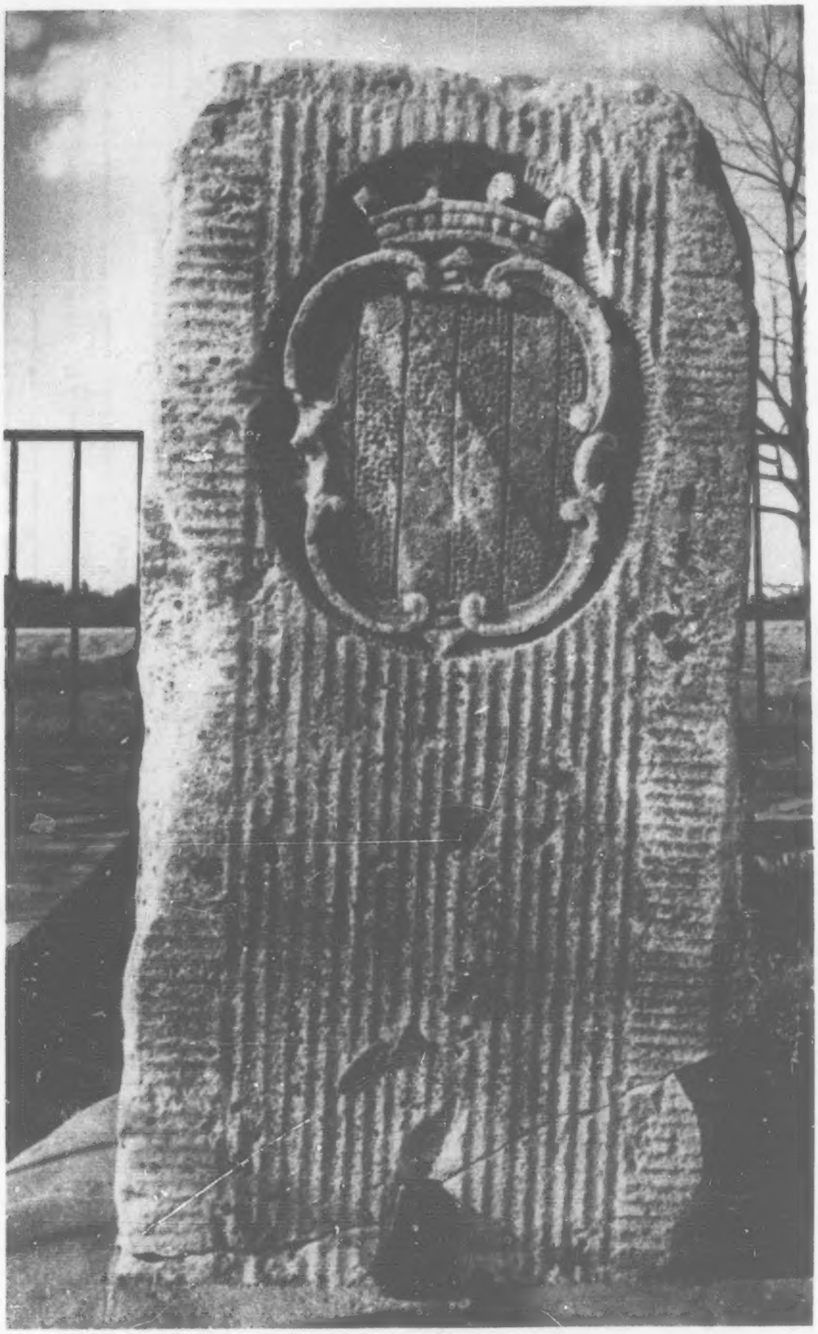
RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: TOWNSEND
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK(S) ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 1/2 miles east of Delmar

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

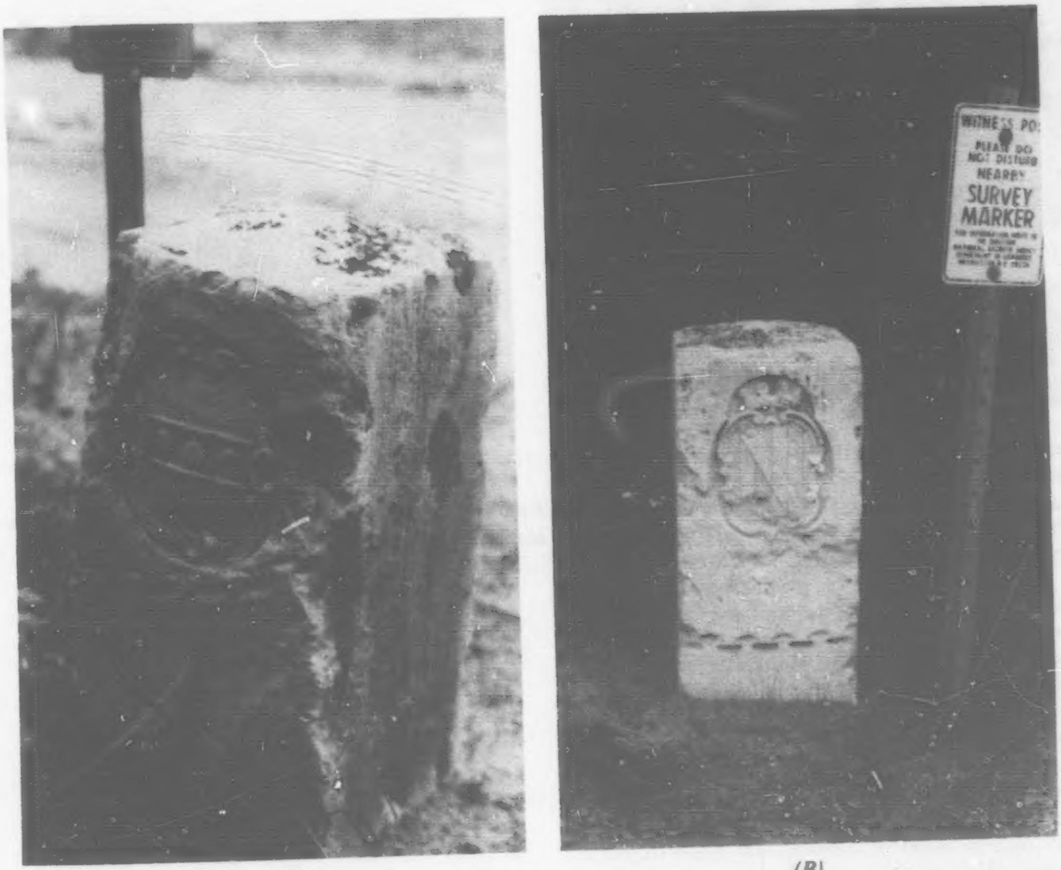
The station and all marks were recovered and found in good condition as previously described.



Courtesy of: William J. Hingst

Boundary Monument MIDDLE POINT, set by Mason and Dixon in 1768, is at the junction of the east-west and north-south Delaware-Maryland boundaries. Penn coat of arms is engraved on north and east sides, Calvert coat of arms on south and west sides. A smaller stone, located 32 in. north of the Middle Point monument, was set in 1760 (Bayliff 1959).

Part Two
North - South Boundary

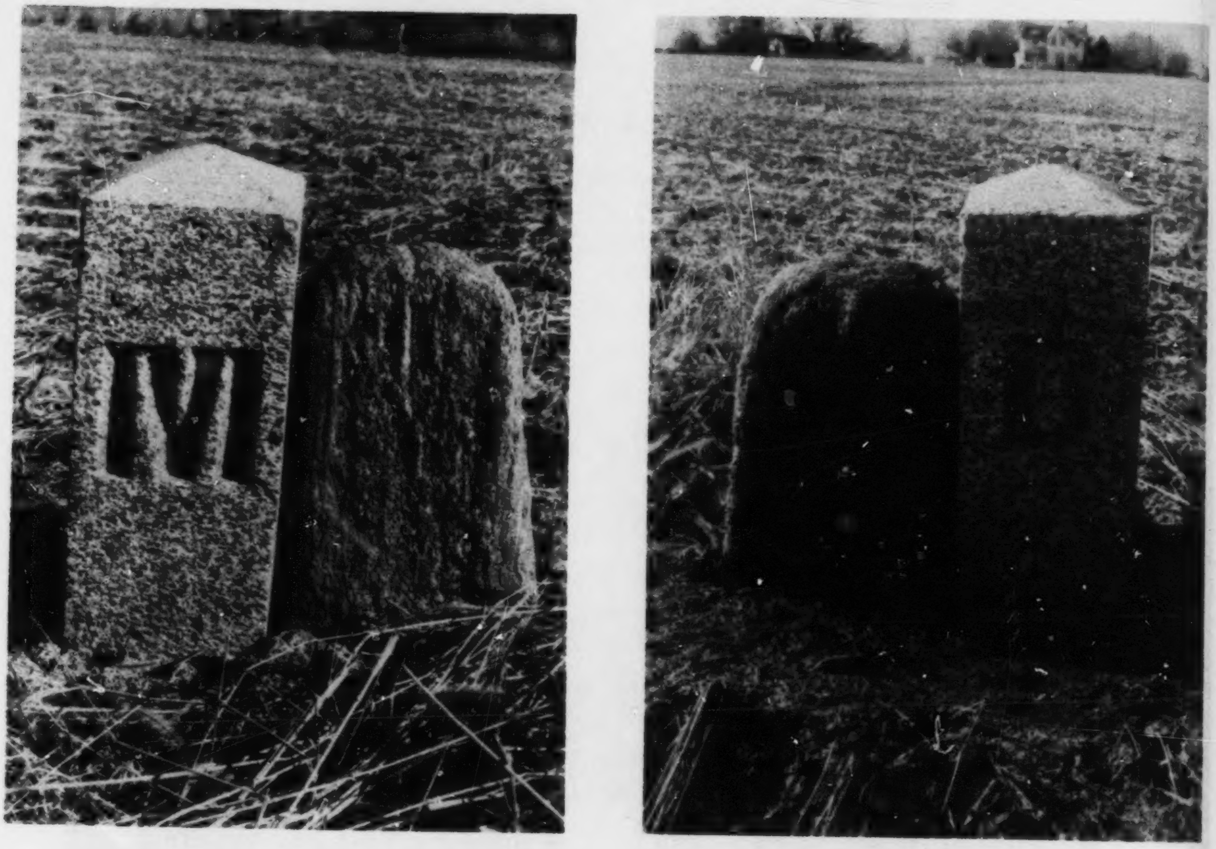

WITNESS POST
PLEASE DO NOT DISTURB
NEARBY
SURVEY
MARKER

Courtesy of: Ralph Foust

(A) *(B)*

Boundary Monument No. 5 of the north-south boundary, set by Mason and Dixon in the latter part of 1765. This crown stone is similar to others set at intervals of 5 miles along the north-south boundary. (A) East (Delaware) side of boundary monument shows the Penn coat of arms. (B) West (Maryland) side shows the Calvert coat of arms.

Courtesy of: Ralph Poust



(A) (B)

Boundary Monument No. 82, identified as the TANGENT stone, of the north-south boundary. The smaller stone was set by Mason and Dixon on June 18, 1765 and the stone engraved with M and D was set by Graham in 1849. (A) West (Maryland) side of TANGENT stone. (B) East (Delaware) side of TANGENT stone.

PART TWO

NORTH-SOUTH BOUNDARY

Definition of the Boundary

The north-south boundary (fig. 1) between the States of Delaware and Maryland, extending from the western terminal of the Transpeninsular Line (the east-west boundary) to the northeast corner of Maryland, is defined in three parts (Bayliff 1959) as follows:

1. The Tangent Line—This line begins at MIDDLE POINT on the east-west boundary and extends northward to a point where the line is tangent to a circle of 12-mile radius centered at the New Castle courthouse.
2. The Arc—This part of the boundary is the arc of the New Castle circle that lies to the west of a line drawn due north from the Tangent Point.
3. The North Line—This line extends due north from the New Castle circle to the northeast corner of Maryland. The northeast corner of Maryland is defined as the intersection of the due north line from the New Castle circle with a parallel of latitude 15 miles south of the southernmost limits of Philadelphia.

Colonial Survey of the Tangent Line, 1761-63

In accordance with the boundary agreement of 1760 between Lord Baltimore and the Penn heirs, surveyors of the provinces of Maryland and Pennsylvania made observations for the true meridian at MIDDLE POINT and started a survey of the Tangent Line in 1761. This line was extended over a distance of 80 miles north from MIDDLE POINT. Then, the circle of 12-mile radius around New Castle was laid out, and it was found that the line north from MIDDLE POINT intersected the radius of the 12-mile circle at a distance of 7 miles and 39.97 chains[*] from New Castle courthouse. At the time of this survey, the point of tangency of the line northward from MIDDLE POINT with the circle around New Castle was determined and marked by the colonial surveyors (Bayliff 1959).

A second attempt was made by the colonial surveyors in 1762 to lay out the Tangent Line. In this survey, the Tangent Line cut the New Castle radius at a point about 0.5 mile east of the Tangent Point that was fixed at 12 miles from New Castle the previous year. Then in August 1763, a third measurement of the line was completed; this line was 5.25 chains west of the Tangent Point. Results of the third survey were reported to commissioners of the two provinces, and after offsets had been made to the true Tangent Line, they were ready to accept this survey as defining the boundary. The commissioners, however, were informed that Charles Mason and Jeremiah Dixon had been engaged by the Penns and Lord Baltimore to assist in running the boundaries between the two provinces.

Mason-Dixon Survey of the North-South Boundary

Charles Mason and Jeremiah Dixon, the two English mathematician astronomers engaged to assist in completing surveys of the Maryland-Pennsylvania boundary, arrived in Philadelphia on November 15, 1763. About 2 weeks later, the commissioners from Maryland and Pennsylvania met with Mason and Dixon to outline the survey operations to be accomplished. These operations are best described in a letter to Thomas Penn (Cummings 1962):

> *Sir*
>
> *We arrived here the 15th of November and immediately wrote to Governor Sharp signifying our arrival. On the 30th of November the Commissioners from Maryland came to this city and, they in conjunction with those of Pensilvania, have given us instructions to the following purpose.*
>
> *1st—To settle the latitude of the southernmost point of the City of Philadelphia by the Sector, (which we are now about).*
>
> *2nd—To find a point by the Sector, 30 or 35 miles west from this place, having the same latitude as the southernmost point of this city.*
>
> *3rd—From this point so found to measure 15 miles horizontally due south, which done, to observe the latitude of the south end of the said Line p Sector, and so proceed to run the parallel of latitude through this last point which is to be the north boundary of Maryland and south boundary of Pensilvania.*
>
> *4th—On the 15th of June next, (if we receive no further orders from the Commissioners), we are to begin the Tangent, as those already run for Tangent are so very irregular differing from each other in the middle about 200 feet.*
>
> *5th—When we judge we are within 10 days of finishing the said Tangent, we are to inform the Commissioners that they may meet us at Tangent Point or thereabout. As our instruments are in*

---

[*] The chains used were 66 ft in length with 100 links per chain. In the original boundary surveys, distances were recorded as chains and links; in this report, however, the distances are given as chains and decimals of a chain.

> *very good order, and not in the least damaged by the voyage, we hope by the end of next summer, to give a satisfactory acct. of all the above work mentioned in our instructions.*
>
> *We are*
> *Sir*
> *Your most obedient and*
> *humble servants*
> *Charles Mason*
> *Jeremiah Dixon*

In the letter to Thomas Penn, instructions numbered 1, 2, and that part of 3 that established the parallel of latitude of the Maryland-Pennsylvania boundary were completed by June 12, 1764. The Mason-Dixon Journal (American Philosophical Society 1969) of June 13 states:

> *Packing up the instruments and preparing to set out for the middle point of the Peninsula formed by the Sea and Chesapeake Bay in order to run the Tangent Line.*

Measurements along the Tangent Line were started by Mason and Dixon on June 26, 1764, and by August 25 the line had been extended over a distance of 81 miles. The journal of August 25 and 27 states:

> *Set the 81st mile post and produced the line till we judged we were past the point settled before to be the Tangent Point in the circle round New Castle of 12 miles radius. Opened a visto and produced the line run (by the former surveyors) from New Castle courthouse till it intercepted the line we ran. The distance from this point of intersection and the point esteemed to be the Tangent Point in the New Castle circle is 22.51 chains. The distance from the MIDDLE POINT to the said point of intersection is 81 miles and 78.31 chains.*

It is surprising, indeed, that Mason and Dixon reached the north end of the Tangent Line at a distance of 22.51 chains west of Tangent Point; whereas, the third attempt by the colonial surveyors was only 5.25 chains to the west of TANGENT. Tabulations are given in the Mason-Dixon Journal for offset computations at 5-mile intervals for their line and for that of the colonial surveyors. Along with these tabulations is another table of offsets with the heading, "From the above our offsets will be to the east of the offsets made by the third or last line." As explained later in the journal, this table of offsets was used for setting preliminary posts at 5-mile intervals along the Tangent Line. Therefore, the offsets used for marking these points were based on combined results of the colonial and Mason-Dixon surveys of the Tangent Line. In the table of offsets, which was used to mark the 5-mile points, the reference to the third or last line is obviously the colonial surveyors line, since, as stated in the Mason-Dixon Journal, dated November 12, 1764:

> *From the foregoing our second or last line falling two feet two inches to the west of the Middle Point, and sixteen feet nine inches to the east of the point esteemed or shown us to be the Tangent Point....*

As stated in the journal dated September 4, 1764:

> *We set out on our return toward the Middle Point to make our offsets at every 5th mile post as per table marked.*
>
> [This table is shown on page 62 of the reference (American Philosophical Society 1969).]

They reached the Middle Point on September 25 and found that they were 2 ft and 2 in. to the west. Then on September 27, Mason and Dixon started the second running of the line from Middle Point to Tangent. On this running of the line, they were a few feet to the east of the offsets, established in accordance with their computed values, at each 5-mile interval. They reached the Tangent Point on November 12, 1764, and found that they were 16 ft 9 in. to the east. Final offsets were then made to mark the Tangent Line at 1-mile intervals.

After completing the Tangent Line survey, Mason and Dixon were engaged in other operations for about 6 months before continuing the north-south boundary survey. During this time, they extended the Maryland-Pennsylvania boundary along the parallel of latitude previously established, over a distance of about 30 miles.

On June 1, 1765, Mason and Dixon returned to the Tangent Point and started observations to establish a meridian that would be a chord of the 12-mile circle and continue north to intersect the Maryland-Pennsylvania boundary parallel. As reported in the journal:

> *The distance in the circle of due north course from the Tangent Point is 1 mile and 36.10 chains.*

Offsets from the chord to the arc were computed at intervals of 10 chains; then four points were established on the arc to mark the boundary. Also, a boundary post was set at the intersection of the circle with the meridian north of Tangent Point. It is of interest to note that the maximum distance from the chord to the arc was 116 ft.

The north-south boundary survey was completed on June 6, 1765, and as stated in the journal for this date:

> *...continued the line to the parallel of latitude 15 miles south of the southernmost point of the city of Philadelphia. From the Tangent Point to the said parallel on a due north course is 5 miles and 1.50 chains horizontal measure. (On December 10th and 11th, 1766, Messrs. Darby and Cope remeasured this line and found it 5 miles and 2.43 chains). The meridian from the Tangent Point crossed the parallel at 2 miles and 79.27 chains from the point where we began to run the parallel.*

All stones set by Mason and Dixon to mark the north-south boundary were set in the presence of a commissioner from each province (Cummings 1962). Seven stones were set on June 18, 1765: one at the Tangent Point; four in the periphery of the circle around New Castle; one between the intersection of the circle with the North Line and the intersection of the North Line and parallel; and one at the intersection of the North Line with the Maryland-Pennsylvania boundary parallel. The latter stone is marked the NE CORNER OF MARYLAND.

During the period from December 17, 1765, to January 1, 1766, 50 stones were set at 1-mile intervals marking the boundary along the first 50 miles north of MIDDLE POINT. Then from October 30 to November 20, 1766, 35 stones were set that completed the marking of the north-south boundary (American Philosophical Society 1969). These 85 stones, each 34 in. long, 12 in. wide, and 11 in. thick, were cut and carved on the Isle of Portland, Dorsetshire, England. The stones that mark each fifth mile of the boundary have shields from the Coats of Arms of the Penns on one side and the Calverts on the opposite side. The mile stones between the 5-mile markers are carved with M and P on opposite sides (Cummings 1962).

Graham Resurvey of the Arc and North Line in 1849-50

The boundary stone set by Mason and Dixon in 1765 at the northeast corner of Maryland disappeared at some unknown date prior to 1849 (Bayliff 1959). The absence of this stone and the possibility that some other stones in the general area might have been moved led to the appointment in 1849 of a Joint Commission composed of representatives from the States of Delaware, Maryland, and Pennsylvania.

This Joint Commission obtained from the War Department the detail of Lieut. Col. J. D. Graham to perform surveys necessary to replace any missing boundary monuments and to verify the position of all stones along the boundary from the northeast corner of Maryland to Tangent Point.

In accordance with the proposed survey, Graham reestablished the NE CORNER OF MD and marked the corner with a large granite post. The corner was established by producing to an intersection the north-south and east-west boundary lines as marked by monuments then in existence. Also, Graham set new granite posts at the Tangent Point, at the middle point of the Arc north of Tangent Point, and at the point where the Arc cuts the meridian line. All other monuments set by Mason and Dixon between the Tangent Point and the NE CORNER OF MD were reported to be in place on the boundary.

Resurvey by The U.S. Coast and Geodetic Survey in 1961-62

As mentioned in the introduction of this report, the Coast and Geodetic Survey performed a resurvey of the Delaware-Maryland north-south boundary during the period from August 31, 1961, to March 31, 1962. Instructions for the survey stated that observations would be made in accordance with specifications for second-order, class I area triangulation, class II triangulation, and second-order traverse.

The primary objective of the new survey was to establish horizontal control stations at intervals of approximately 1 mile and in the vicinity of each original boundary monument set by Mason and Dixon. These horizontal control stations would then serve as a reference for connecting the existing boundary monuments to the national net and establishing points on the boundary to replace any missing monuments.

In this resurvey, from MIDDLE POINT to the NE CORNER OF MD, a total of 109 new horizontal control stations were established, 28 old stations were recovered, and traverse connections were made to each existing boundary monument from the new station nearby. A Model 4 Geodimeter and a Tellurometer were used to measure approximately 140 lines in the network. A total of 101 lines ranging in length from 1100 m to 20,000 m were measured with the Tellurometer and 40 lines ranging from 310 m to 3000 m were measured with the Geodimeter. Most of the lines measured with the Geodimeter were also measured with the Tellurometer.

The Coast and Geodetic Survey project report of the field operations states:

> *The boundary line was heavily timbered with farm land under cultivation on each side of the line. Extra tall towers were required on the project due to the tall timber. Working conditions along the line were difficult due to the low marsh area in many places and extra time was required, with 4-wheel drive vehicles, to haul the steel towers to the station sites. Some stations had to be skipped until the fall farm harvest was completed and then return later to complete the stations. Also, some stations were skipped to allow low areas to drain after the severe east coast storm in the latter part of 1961.*

After the survey was completed, all observational data were submitted to the Washington, D.C., office of the Coast and Geodetic Survey. The observations were then reviewed and checked, and a least-squares adjustment was performed. In this adjustment, all stations that had been positioned in previous surveys were used as control; and all observed directions and distance measures in the resurvey were used as observation equations. Results obtained from the adjustment indicated that all points in the survey were determined well within the specified accuracy. Figure 7 shows all new points established and old points recovered in the resurvey. Figure 8 depicts the boundary monuments along the boundary with relation to roads throughout the area. Numbers indicating the arc stones are not shown; however, these are between Monuments 82 and 84 on figure 8. Monument Number 1, just north of MIDDLE POINT, is shown on figure 6, part I (east-west boundary).

From positions determined in the 1961-62 survey, azimuths and distances were computed from each existing boundary monument to the terminal points of the Tangent Line, MIDDLE POINT, and TANGENT. The offsets were plotted and a smooth curve through the points indicated a maximum displacement of about 18 ft from the theoretical line. The maximum displace-

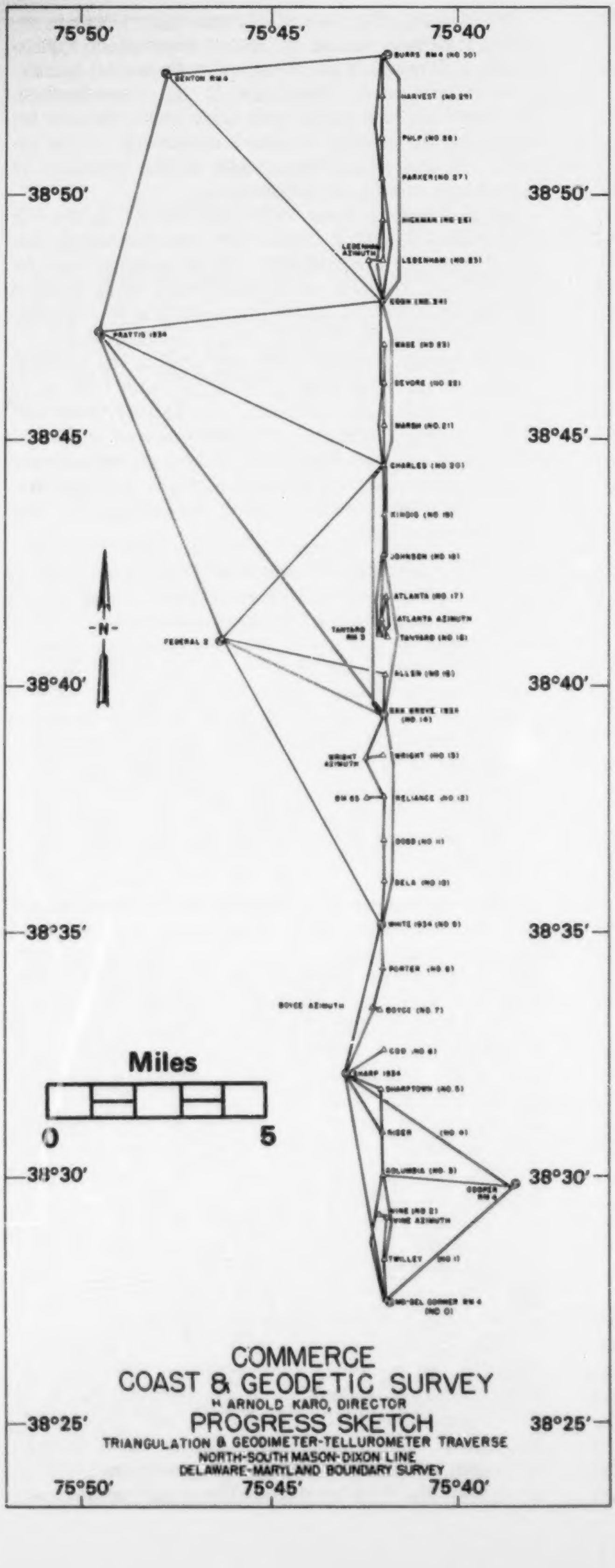

75°50'
75°45'
75°40'
38°50'
38°45'
38°40'
38°35'
38°30'
38°25'
BURRS RM 4 (NO 30)
BENTON RM 4
HARVEST (NO 29)
PULP (NO 28)
PARKER (NO 27)
HICKMAN (NO 26)
LEDENHAM AZIMUTH
LEDENHAM (NO 25)
EDEN (NO 24)
PRATTIS 1934
WADE (NO 23)
DEVORE (NO 22)
MARSH (NO 21)
CHARLES (NO 20)
KINDIG (NO 19)
JOHNSON (NO 18)
ATLANTA (NO 17)
ATLANTA AZIMUTH
TANYARD RM 3
TANYARD (NO 16)
FEDERAL 2
ALLEN (NO 15)
OAK GROVE 1934 (NO 14)
WRIGHT AZIMUTH
WRIGHT (NO 13)
BM 65
RELIANCE (NO 12)
DOBB (NO 11)
DELA (NO 10)
WHITE 1934 (NO 9)
PORTER (NO 8)
BOYCE AZIMUTH
BOYCE (NO 7)
COD (NO 6)
HARP 1934
SHARPTOWN (NO 5)
RIDER (NO 4)
COLUMBIA (NO 3)
COOPER RM 4
VINE (NO 2)
VINE AZIMUTH
TWILLEY (NO 1)
MD-DEL CORNER RM 4 (NO 0)
-N-
Miles
0
5
COMMERCE
COAST & GEODETIC SURVEY
H ARNOLD KARO, DIRECTOR
PROGRESS SKETCH
TRIANGULATION & GEODIMETER-TELLUROMETER TRAVERSE
NORTH-SOUTH MASON-DIXON LINE
DELAWARE-MARYLAND BOUNDARY SURVEY

FIGURE 7.—Section 1 of north-south boundary survey of 1961-62.

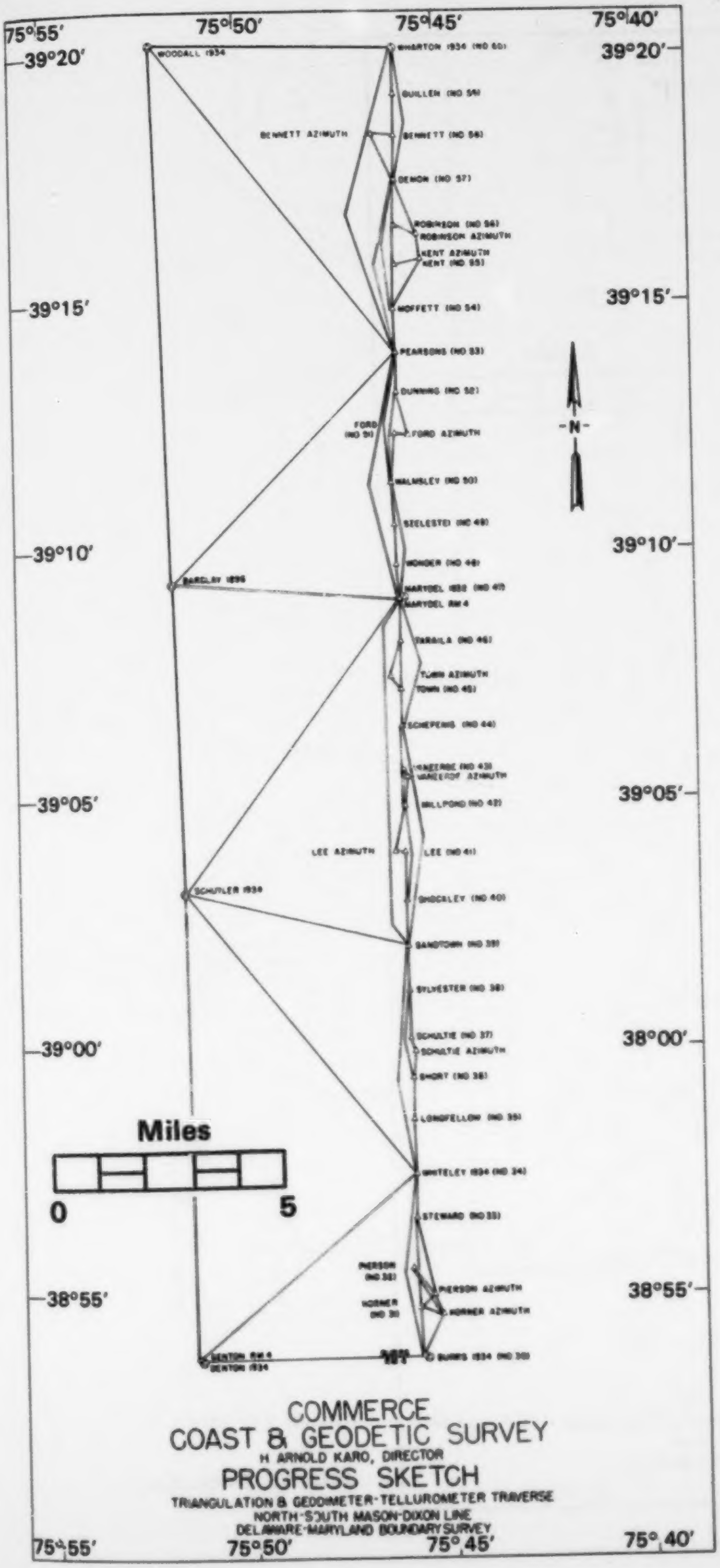

75°55'
75°50'
75°45'
75°40'
39°20'
39°15'
39°10'
39°05'
39°00'
38°00'
38°55'
WOODALL 1934
WHARTON 1934 (NO 60)
GUILLEN (NO 59)
BENNETT AZIMUTH
BENNETT (NO 58)
DENON (NO 57)
ROBINSON (NO 56)
ROBINSON AZIMUTH
KENT AZIMUTH
KENT (NO 55)
MOFFETT (NO 54)
PEARSONS (NO 53)
DUNNING (NO 52)
FORD (NO 51)
FORD AZIMUTH
-N-
WALMSLEY (NO 50)
SEELESTEI (NO 49)
WONDER (NO 48)
BARCLAY 1896
MARYDEL 1882 (NO 47)
MARYDEL RM 4
TARAILA (NO 46)
TOWN AZIMUTH
TOWN (NO 45)
SCHEPENS (NO 44)
VANEERDE (NO 43)
VANEERDE AZIMUTH
MILLPOND (NO 42)
LEE AZIMUTH
LEE (NO 41)
SCHUYLER 1934
SHOCKLEY (NO 40)
SANDTOWN (NO 39)
SYLVESTER (NO 38)
SCHULTIE (NO 37)
SCHULTIE AZIMUTH
SHORT (NO 36)
LONGFELLOW (NO 35)
Miles
0
5
WHITELEY 1934 (NO 34)
STEWARD (NO 33)
PIERSON (NO 32)
PIERSON AZIMUTH
HORNER (NO 31)
HORNER AZIMUTH
DENTON RM 4
DENTON 1934
BURNS 1934 (NO 30)
COMMERCE
COAST & GEODETIC SURVEY
H ARNOLD KARO, DIRECTOR
PROGRESS SKETCH
TRIANGULATION & GEODIMETER-TELLUROMETER TRAVERSE
NORTH-SOUTH MASON-DIXON LINE
DELAWARE-MARYLAND BOUNDARY SURVEY

FIGURE 7—Section 2.

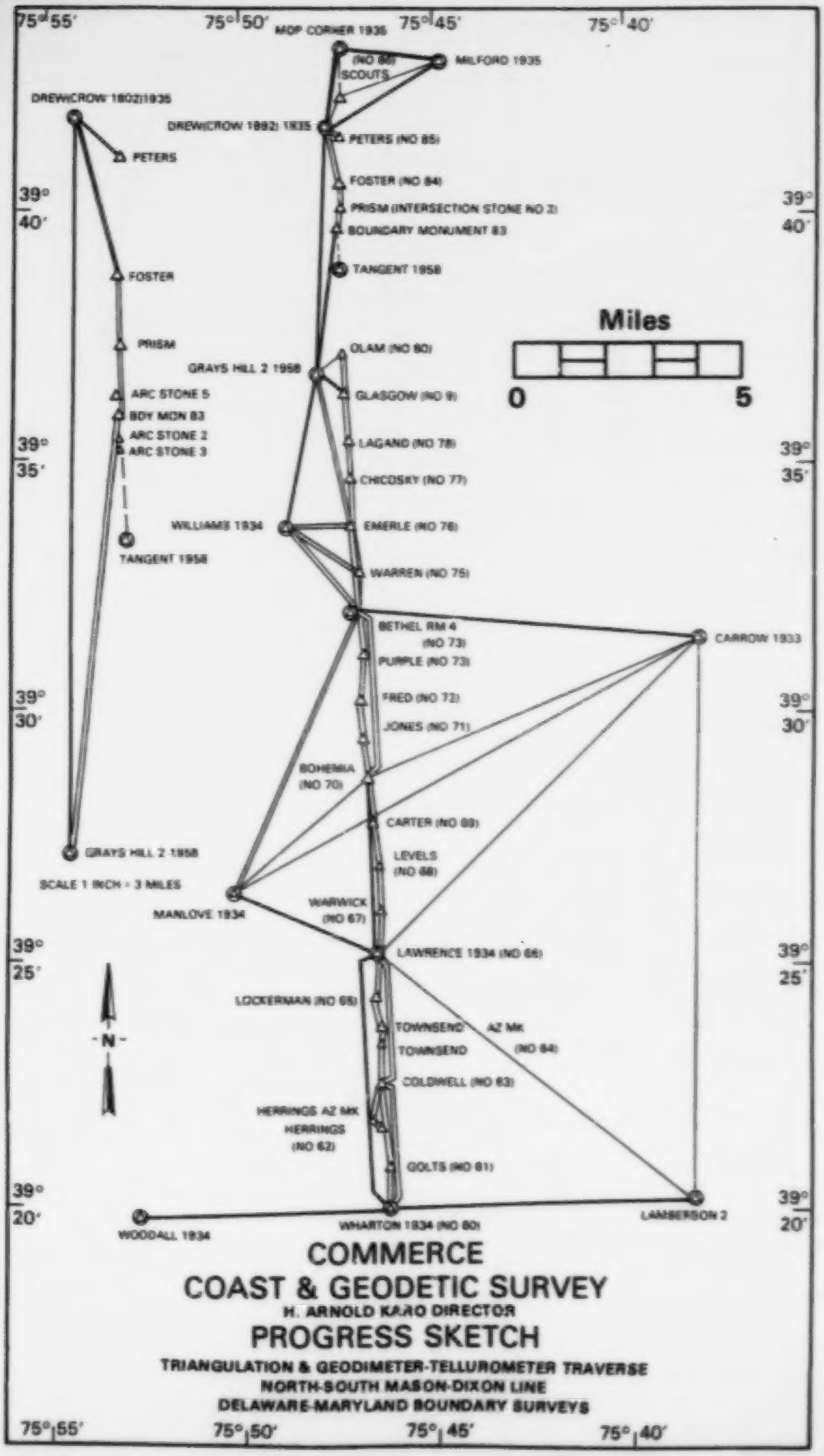

75° 55′
75° 50′
75° 45′
75° 40′
39° 40′
39° 35′
39° 30′
39° 25′
39° 20′
MDP CORNER 1935
MILFORD 1935
(NO 86)
SCOUTS
DREW(CROW 1892) 1935
PETERS
DREW(CROW 1892) 1935
PETERS (NO 85)
FOSTER (NO 84)
PRISM (INTERSECTION STONE NO 2)
BOUNDARY MONUMENT 83
TANGENT 1958
FOSTER
Miles
0
5
PRISM
OLAM (NO 80)
GRAYS HILL 2 1958
GLASGOW (NO 9)
ARC STONE 5
BDY MON 83
ARC STONE 2
ARC STONE 3
LAGANO (NO 78)
CHICOSKY (NO 77)
WILLIAMS 1934
EMERLE (NO 76)
TANGENT 1958
WARREN (NO 75)
BETHEL RM 4
(NO 73)
CARROW 1933
PURPLE (NO 73)
FRED (NO 72)
JONES (NO 71)
BOHEMIA
(NO 70)
CARTER (NO 69)
GRAYS HILL 2 1958
LEVELS
(NO 68)
SCALE 1 INCH = 3 MILES
WARWICK
(NO 67)
MANLOVE 1934
LAWRENCE 1934 (NO 66)
LOCKERMAN (NO 65)
N
TOWNSEND AZ MK
TOWNSEND
(NO 64)
COLDWELL (NO 63)
HERRINGS AZ MK
HERRINGS
(NO 62)
GOLTS (NO 61)
WHARTON 1934 (NO 60)
LAMBERSON 2
WOODALL 1934
COMMERCE
COAST & GEODETIC SURVEY
H. ARNOLD KARO DIRECTOR
PROGRESS SKETCH
TRIANGULATION & GEODIMETER-TELLUROMETER TRAVERSE
NORTH-SOUTH MASON-DIXON LINE
DELAWARE-MARYLAND BOUNDARY SURVEYS

FIGURE 7—Section 3.

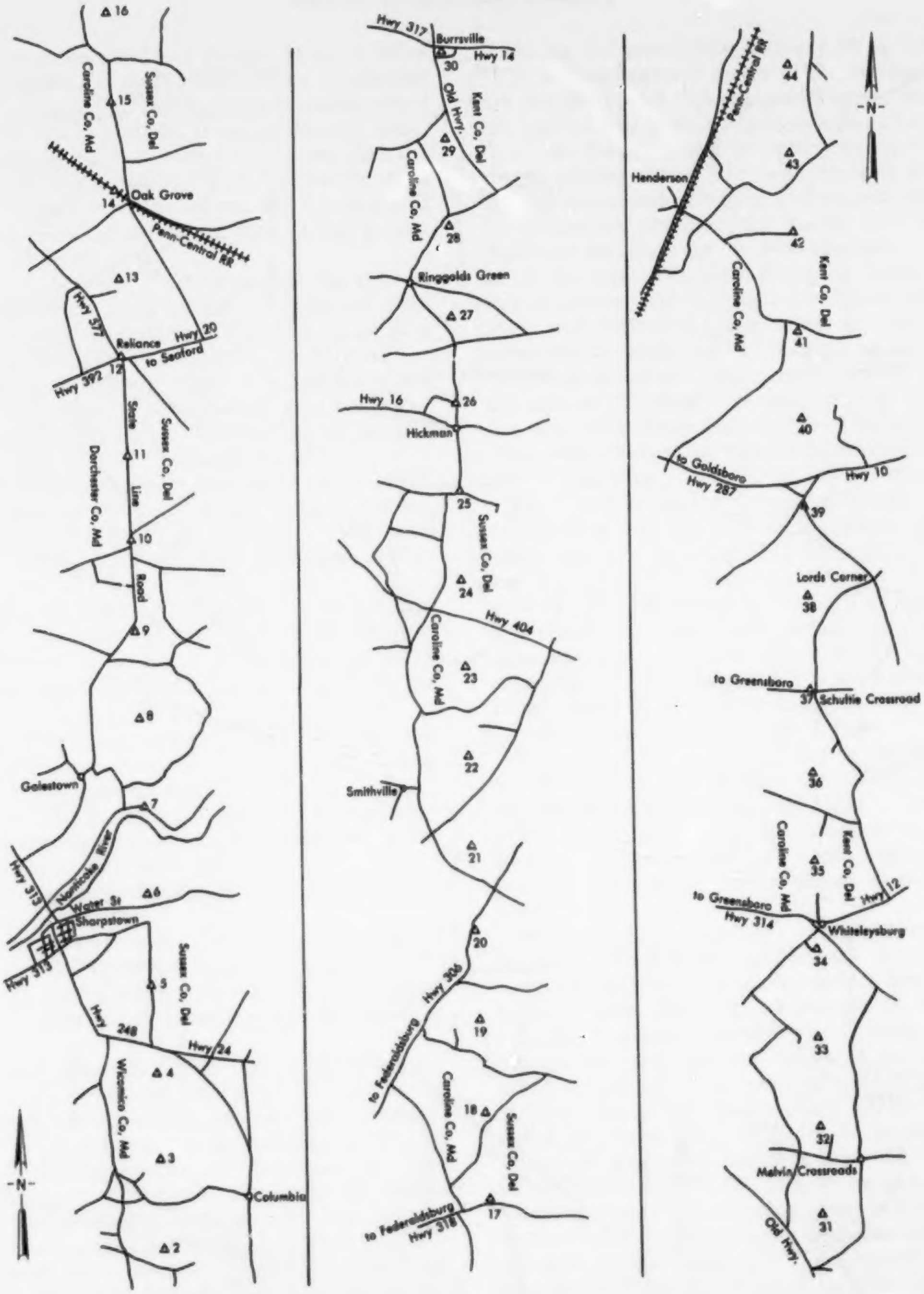

16
Caroline Co, Md
Sussex Co, Del
15
Oak Grove
14
Penn-Central RR
13
Hwy 577
Reliance
Hwy 20
to Seaford
Hwy 392
12
State
Sussex Co, Del
Dorchester Co, Md
11
Line
Sussex Co, Del
10
Road
9
8
Galestown
7
Nanticoke River
Hwy 313
Water St
6
Sharpstown
Hwy 313
Sussex Co, Del
5
Hwy
248
Hwy 24
Wicomico Co, Md
4
-N-
3
Columbia
2
Hwy 317
Burrsville
Hwy 14
30
Old Hwy.
Kent Co, Del
29
Caroline Co, Md
28
Ringgolds Green
27
Hwy 16
26
Hickman
25
Sussex Co, Del
24
Hwy 404
Caroline Co, Md
23
22
Smithville
21
20
Hwy 306
19
to Federalsburg
Caroline Co, Md
18
Sussex Co, Del
to Federalsburg
Hwy 318
17
Penn-Central RR
44
-N-
43
Henderson
42
Kent Co, Del
Caroline Co, Md
41
40
to Goldsboro
Hwy 287
Hwy 10
39
Lords Corner
38
to Greensboro
37
Schultie Crossroad
36
Caroline Co, Md
Kent Co, Del
35
Hwy 12
to Greensboro
Hwy 314
Whiteleysburg
34
33
32
Melvin Crossroads
31
Old Hwy.

FIGURE 8.—Markers along north-south boundary, Middle Point to NE Corner Maryland.

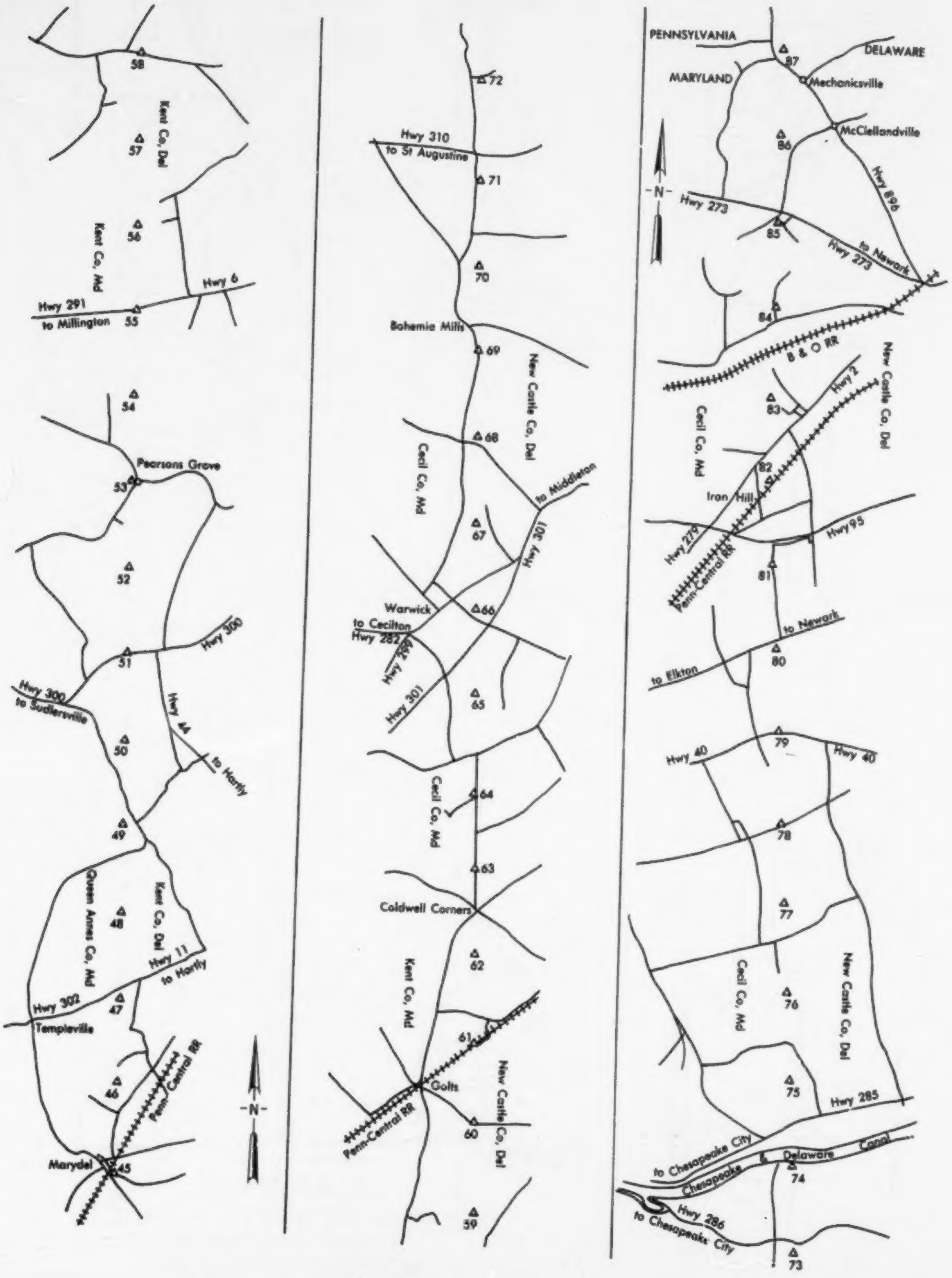

58
Kent Co, Del
57
56
Kent Co, Md
Hwy 6
Hwy 291
to Millington
55
54
Pearsons Grove
53
52
Hwy 300
51
Hwy 300
to Sudlersville
Hwy 44
to Hartly
50
49
Queen Annes Co, Md
48
Kent Co, Del
Hwy 11
to Hartly
Hwy 302
47
Templeville
46
Penn-Central RR
Marydel
45
-N-
72
Hwy 310
to St Augustine
71
70
Bohemia Mills
69
New Castle Co, Del
68
Cecil Co, Md
to Middleton
67
Hwy 301
Warwick
to Cecilton
Hwy 282
Hwy 299
66
Hwy 301
65
Cecil Co, Md
64
63
Coldwell Corners
62
Kent Co, Md
61
Golts
New Castle Co, Del
Penn-Central RR
60
59
PENNSYLVANIA
DELAWARE
MARYLAND
87
Mechanicsville
McClellandville
86
Hwy 896
-N-
Hwy 273
85
to Newark
Hwy 273
84
B & O RR
New Castle Co, Del
Cecil Co, Md
83
Hwy 2
82
Iron Hill
Hwy 279
Penn-Central RR
Hwy 95
81
to Newark
to Elkton
80
Hwy 40
79
Hwy 40
78
77
Cecil Co, Md
New Castle Co, Del
76
75
Hwy 285
to Chesapeake City
Chesapeake & Delaware Canal
74
Hwy 286
to Chesapeake City
73

FIGURE 8-Continued.

ment occurs near the middle of the line at about Monument Number 44. Of the 83 monuments established on this line by Mason and Dixon, 15 were missing and 5 appeared to be out of position. It was arbitrarily decided that all monuments that were 4 ft or more from the mean curve had been displaced. Figure 9 shows the mean curve as determined from the offsets, the 5 monuments more than 4 ft from the curve, and the 15 missing monuments (Meade 1964).

Arc Stones 2, 3, 4, and 5 were located in the 1961-62 survey, and Arc Stone 1 was located in a survey of 1958. Computations were then made to find the center of a circle passing through TANGENT and Intersection Stone 2 (set by Graham in 1849). The position of the center was determined, and distances were computed to each of the five arc stones. These distances were all within 4 ft of the computed radius of the circle.

On the North Line, the three monuments set by Mason and Dixon between the Intersection Stone 2 and the NE CORNER OF MD (set by Graham in 1849) were found to be within 2 ft of the meridian line between the terminals.

At a conference held on September 4, 1962, in the office of the Coast and Geodetic Survey, Washington, D.C., with officials of the States of Delaware and Maryland, the following recommendations were made by the C&GS:

1. That the five monuments which were 4 or more feet from the mean curve be replaced on line with existing monuments to the north and south.
2. That the 15 missing monuments be reestablished on line between the nearest existing monument to the north and to the south in each case.
3. That the remaining monuments be accepted as properly marking the boundary.

Also, at this conference the C&GS pointed out to the State officials that theoretical computations necessary to replace the 15 missing monuments and the 5 monuments suspected as being out of position would be made by the C&GS.

A few months after the C&GS recommendations were presented to the two States, horizontal control data for all points along the north-south boundary were furnished to officials of each State; but no action was taken to carry out the recommendations until a request was made by the Civic Club of Marydel, Delaware, to replace Monument Number 45 on the boundary. This was one of the five monuments determined to be more than 4 ft from the mean curve between MIDDLE POINT and TANGENT. When the request to replace Monument 45, dated December 28, 1967, was received in the C&GS office, it was referred to the officials of Delaware and Maryland for approval. Then, following approval by officials of the two States, Boundary Stone Number 45 was moved about 5 ft to the west and reset on the boundary in May 1968.

Five years later when officials of Delaware and Maryland agreed that a resurvey of the east-west boundary should be made, it was also agreed that final action would be taken to restore the north-south boundary as recommended by the Coast and Geodetic Survey in 1962.

During the period from January 20 to February 20, 1975, a reconnaissance survey of the north-south boundary was performed to locate points on the boundary for moving the four monuments reported to be more than 4 ft off the boundary and for setting markers to replace the 15 missing stones. The boundary sites for resetting existing monuments or setting new markers were selected by representatives from the States of Delaware and Maryland and from the National Geodetic Survey. Measurements were then made from the nearby triangulation or traverse station at each site. These measurements, along with descriptive information for each site, were submitted to officials of each State in a report titled "Boundary Summary" dated April 10, 1975. The boundary sites as described were selected in accordance with the recommendations made by the C&GS in 1962, and these were approved by officials of Delaware and Maryland at a meeting held in Dover, Del., on May 7, 1975.

As a result of the Dover meeting, officials of the State of Delaware and the State of Maryland signed a joint agreement that gives detailed information on remarking the north-south boundary between the States. A copy of the joint agreement is given as appendix C of this report. The boundary summary mentioned in the joint agreement is not attached to the agreement in appendix C since all information in the summary is given in this report in the station descriptions of the horizontal control data for each boundary point.

The project for resetting stones on the boundary and for establishing new markers was started in 1976 and was completed in the early part of 1977. Final measurements, made from the nearby triangulation or traverse station to the reset boundary stones and/or new markers, were used to compute positions of each boundary point.

Azimuths given in table 4, computed from the final positions published by the National Geodetic Survey, verify the alignment of stones reset or new markers established along the boundary between the original monuments. Azimuths and distances between consecutive monuments along the total length of the boundary are given in table 5. The traverse and/or triangulation stations from which the boundary markers were established are shown in table 6. In the Mason-Dixon survey of the north-south boundary from MIDDLE POINT to the NE CORNER OF MD, 83 monuments were set on the section of the boundary from MIDDLE POINT to TANGENT; 4 monuments were set along the arc of the New Castle circle; and 5 monuments were set on the section from the circle to the NE CORNER OF MD. From the comments given in table 6, the 92 boundary monuments set by Mason and Dixon can be accounted for as follows: 66 original monuments were found to be in position on the boundary; 18 original monuments were recovered and reset on the boundary; 2 monuments, INTERSECTION STONE 2 and the NE CORNER OF MD, were destroyed in the early 1800's, and stones to replace the original monuments were set by Graham in 1849; the remaining 6 original monuments were not found, and disks were set on the boundary at 7, 10, 11, 30, 61, and 64 miles from MIDDLE POINT.

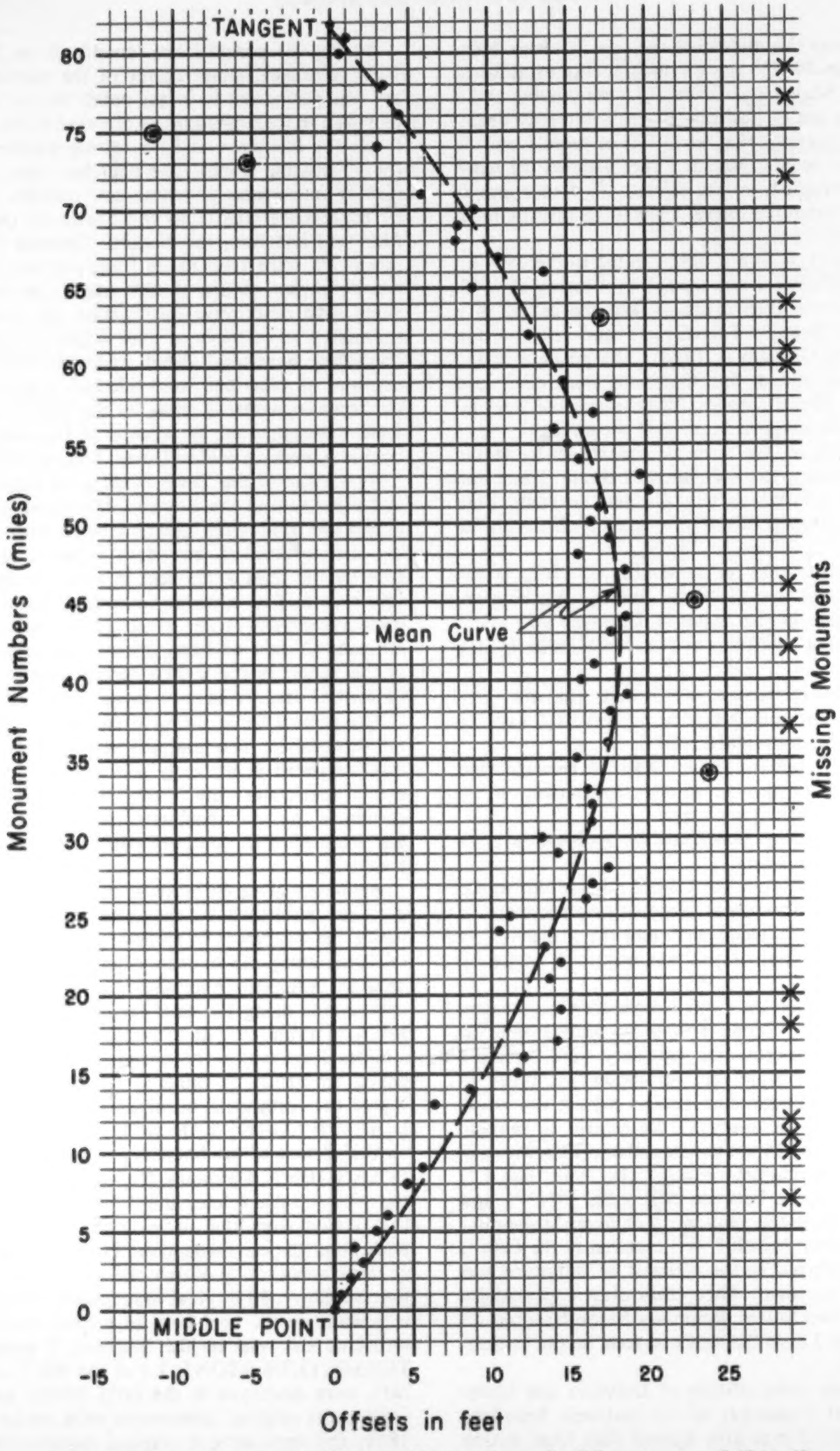


FIGURE 9.—Mean curve of Tangent Line as determined from survey of 1961-62.

TABLE 4.— Azimuths to verify setting of new markers and resetting old monuments on the north-south boundary between the original monuments

Monument Number From	To	Azimuth (from south)		
6[1]	8[1]	176°	28′	11.8″
	7	176	28	11.9
9[1]	13[1]	176	27	48.2
	10	176	27	48.7
	11	176	27	48.0
	12	176	27	48.3
17[1]	19[1]	176	27	25.1
	18	176	27	24.9
19[1]	21[1]	176	27	03.8
	20	176	27	03.7
33[1]	35[1]	176	26	29.2
	34	176	26	29.4
36[1]	38[1]	176	26	40.6
	37	176	26	39.6
41[1]	43[1]	176	26	40.2
	42	176	26	40.2
44[1]	47[1]	176	26	08.9
	45	176	25	48.3
	46	176	26	09.0
59[1]	62[1]	176	25	03.3
	60	176	25	02.8
	61	176	25	03.3
62[1]	65[1]	176	24	33.2
	63	176	24	32.3
	64	176	24	36.6
71[1]	74[1]	176	24	23.1
	72	176	24	23.4
	73	176	24	22.8
74[1]	76[1]	176	25	12.0
	75	176	25	11.5
76[1]	78[1]	176	24	27.8
	77	176	24	27.8
78[1]	80[1]	176	23	48.4
	79	176	23	47.9

[1] Original boundary monument.

TABLE 5.—Azimuth and distance between monuments along the north-south boundary. (AS is Arc Stone, and IS Intersection Stone)

Monument Number From	To	Azimuth (from south)			Distance (meters)
0	1	176°	28′	15.0″	1612.643
1	2	176	28	28.1	1613.413
2	3	176	28	32.1	1612.389
3	4	176	27	32.4	1611.963
4	5	176	28	47.3	1611.308
5	6	176	28	17.5	1613.627
6	7	176	28	11.9	1606.431
7	8	176	28	06.9	1616.092
8	9	176	28	26.2	1609.858
9	10	176	27	48.7	1663.124
10	11	176	27	44.6	1557.703
11	12	176	27	43.7	1778.044
12	13	176	27	39.8	1451.761
13	14	176	29	01.1	1611.524
14	15	176	29	19.6	1610.875
15	16	176	27	45.8	1612.273
16	17	176	28	45.5	1612.788
17	18	176	27	24.9	1518.298
18	19	176	27	22.8	1708.104
19	20	176	27	03.7	1642.439
20	21	176	27	01.2	1582.915
21	22	176	27	31.4	1610.596
22	23	176	26	27.6	1626.711
23	24	176	25	17.0	1605.923
24	25	176	27	30.1	1613.719
25	26	176	30	03.0	1617.788
26	27	176	27	13.9	1605.313
27	28	176	27	32.2	1612.684
28	29	176	24	50.3	1617.672
29	30	176	26	12.1	1620.282
30	31	176	28	49.6	1610.921
31	32	176	26	44.0	1616.367
32	33	176	26	28.6	1611.533
33	34	176	26	29.4	1610.591
34	35	176	26	26.4	1615.003
35	36	176	27	40.3	1625.073
36	37	176	26	39.6	1466.049
37	38	176	26	38.9	1758.019
38	39	176	26	57.3	1615.659
39	40	176	24	36.5	1601.794
40	41	176	26	47.2	1619.960
41	42	176	26	40.2	1827.153
42	43	176	26	37.3	1428.147
43	44	176	26	47.6	1612.619
44	45	176	25	48.3	1573.980
45	46	176	26	26.3	1632.114
46	47	176	26	03.6	1618.931
47	48	176	24	09.2	1613.800
48	49	176	27	17.6	1610.589
49	50	176	25	06.6	1604.928

TABLE 5.—Azimuth and distance between monuments along the north-south boundary.—Continued (AS is Arc Stone, and IS Intersection Stone)

Monument Number		Azimuth (from south)			Distance (meters)
From	To				
50	51	176°	26′	23.8″	1614.330
51	52	176	27	50.8	1609.451
52	53	176	25	25.8	1622.907
53	54	176	23	17.5	1609.722
54	55	176	25	10.6	1606.392
55	56	176	25	16.4	1618.579
56	57	176	27	12.5	1612.092
57	58	176	26	16.3	1618.704
58	59	176	23	41.6	1617.418
59	60	176	25	02.9	1690.011
60	61	176	25	01.0	1523.391
61	62	176	24	57.9	1622.405
62	63	176	24	32.3	1612.549
63	64	176	24	38.9	1408.309
64	65	176	24	22.6	1812.870
65	66	176	28	02.4	1615.959
66	67	176	23	29.9	1614.691
67	68	176	23	15.6	1618.457
68	69	176	25	22.1	1611.953
69	70	176	25	38.8	1615.606
70	71	176	22	51.8	1614.037
71	72	176	24	23.4	1880.183
72	73	176	24	18.8	1331.564
73	74	176	24	18.2	1626.689
74	75	176	25	11.5	1416.844
75	76	176	25	10.0	1806.702
76	77	176	24	27.8	1709.357
77	78	176	24	25.0	1515.215
78	79	176	23	47.9	1674.278
79	80	176	23	46.1	1563.270
80	81	176	24	48.2	1616.521
81	82	176	23	48.6	1568.329
82	AS 1	177	27	40.6	563.856
AS 1	AS 2	179	01	42.4	605.212
AS 2	AS 3	176	01	57.6	12.437
AS 3	AS 4	180	47	52.6	387.661
AS 4	AS 5	181	21	49.1	221.890
AS 5	IS 2	182	34	44.7	568.780
IS 2	84	180	01	13.4	884.264
84	85	180	01	21.2	1610.675
85	86	179	59	05.3	1611.643
86	87	180	00	11.7	1644.814

TABLE 6.—Boundary monuments and traverse or triangulation stations from which the monuments were positioned or established. (AS is Arc Stone, IS Intersection Stone.)

Monument Number	Traverse or triangulation station with comments on boundary monument
0[1]	MD DEL CORNER RM 4 1962 [Triangulation station disk MD DEL CORNER 1932 is set in top of boundary monument. According to Bayliff (1959), this monument was set by Mason and Dixon in 1768. See Monument No. 35 on east-west boundary.]
1[1]	TWILLEY 1962
2	VINE 1962 (Original monument recovered and reset in 1962.)
3[1]	COLUMBIA 1962
4[1]	RIDER 1962
5[1]	SHARPTOWN 1962
6[1]	COD 1962
7	BOYCE 1962 (Boundary disk set in 1976.)
8[1]	PORTER 1962
9[1]	WHITE 1962
10	DELA 1962 (Boundary disk set in 1976 in center of State Line Road under manhole cover.)
11	DODD 1962 (Boundary disk set in 1976 in center of State Line Road under manhole cover.)
12	RELIANCE 1962 (Original monument found 3 ft below the surface of State Line Road and reset on boundary in 1976, 134 m to the north.)
13[1]	WRIGHT 1962
14[1]	OAK CROVE 1934 (Triangulation disk OAK GROVE set in top of monument in 1934.)
15[1]	ALLEN 1962
16[1]	TANYARD 1962
17[1]	ATLANTA 1962
18	JOHNSON 1962 (Original monument recovered and reset on boundary in 1976.)
19[1]	KINDIG 1962
20	CHARLES 1962 (Original monument recovered and reset on boundary in 1976.)
21[1]	MARSH 1962
22[1]	DEVORE 1962
23[1]	WADE 1962
24[1]	COON 1962
25	LEDENHAM 1962 (Results of the 1961-62 survey showed this monument to be in its original position as set by Mason and Dixon. Measurements made in 1977 show the monument was moved 1.279 m to the north when an underground telephone cable was laid.)
26[1]	HICKMAN 1962
27[1]	PARKER 1962
28[1]	PULP 1961
29[1]	HARVEST 1962
30	BURRS 1934 (Original monument was replaced by triangulation station BURRS in 1934. The boundary stone was not found in 1961.)
31[1]	KORNER 1962
32[1]	PIERSON 1962
33[1]	STEWARD 1962
34	WHITELEY 1934 (Triangulation station disk WHITELEY was set in top of the monument in 1934. The monument was reset, about 8 ft to the west, in 1976. Station WHITELEY was set in its original position.)

[1] Original monument set by Mason and Dixon in survey of 1763-67.

TABLE 6.—Boundary monuments and traverse or triangulation stations from which the monuments were positioned or established.—Continued (AS is Arc Stone, IS Intersection Stone.)

TABLE 6.—Boundary monuments and traverse or triangulation stations from which the monuments were positioned or established.—Continued (AS is Arc Stone, IS Intersection Stone.)

Monument Number	Traverse or triangulation station with comments on boundary monument
35[1]	LONGFELLOW 1962
36[1]	SHORT 1962
37	SCHULTIE 1962 (Original monument recovered and reset on boundary in 1976.)
38[1]	SYLVESTER 1962
39[1]	SANDTOWN 1962
40[1]	SHOCKLEY 1961
41[1]	LEE 1961
42	MILLPOND 1961 (One of the original boundary monuments, believed to be Monument No. 11, was reset at this point in 1976.)
43[1]	VANEERDE 1961
44[1]	SCHEPENIS 1961
45	TOWN 1961 (Original monument moved, about 5 ft to the west, and reset on boundary in 1968.)
46	TARAILA 1961 (Original monument recovered and reset on boundary in 1976.)
47[1]	MARYDEL 1932 (Triangulation disk MARYDEL set in top of monument in 1932.)
48[1]	WONDER 1961
49[1]	SZELESTEI 1961
50[1]	WALMSLEY 1961
51[1]	FORD 1961
52	DUNNING 1961 (Original monument recovered and reset in 1961.)
53[1]	PEARSONS 1961
54[1]	MOFFETT 1961
55[1]	KENT 1961
56[1]	ROBINSON 1961
57[1]	DEMON 1961
58[1]	BENNETT 1961
59[1]	QUILLEN 1961
60[1]	WHARTON 1934 (Original monument recovered and reset on boundary in 1976.)
61	GOLTS 1961 (Boundary disk set in 1976.)
62[1]	HERRINGS 1961
63	COLDWELL 1961 (Original monument moved about 5 ft to the west and reset on boundary in 1976.)
64	TOWNSEND 1961 (Boundary disk set in 1976.)
65[1]	LOCKERMAN 1961
66[1]	LAWRENCE 1934 (Triangulation disk LAWRENCE set in top of monument in 1934.)
67[1]	WARWICK 1961
68[1]	LEVELS 1961
69[1]	CARTER 1961
70	BOHEMIA 1961 [Original monument set in present position in May 1950. See Bayliff (1959)]
71[1]	JONES 1961
72	FRED 1961 (Original monument recovered and reset on boundary in 1976.)
73	PURPLE 1961 (Original monument recovered and reset on boundary in 1976.)
74[1]	BETHEL RM 3 1961
75	WARREN 1961 (Original monument recovered and reset on boundary in 1977.)
76[1]	EMERLE 1961
77	CHICOSKY 1961 (Original monument recovered and reset on boundary in 1976.)
78[1]	LAGANO 1961
79	GLASGOW 1961 (One of the original stones, believed to be Monument No. 10, was reset at this point in 1976.)
80[1]	OLAH 1961
81[1]	OTTS 1958
82[1]	TANGENT 1958 (Tangent Stone 1 set by Mason and Dixon in 1765. Tangent Stone 2, north and in contact with Stone 1, set by Graham in 1849.)
AS 1[1]	ARC 1958
AS 2[1]	BDRY MON 83 = Arc Stone 4
AS 3	BDRY MON 83 = Arc Stone 4 (Arc Stone 3 set by Graham in 1849.)
83[1]	
AS 5[1]	BDRY MON 83 = Arc Stone 4
IS 2	PRISM 1961 (Stone set by Graham in 1849.)
84[1]	FOSTER 1961
85[1]	PETERS 1961
86[1]	SCOUTS 1961
87	MDP CORNER 1935 (Boundary stone set by Graham in 1849. MDP CORNER RM 2 set in top of stone in 1935.)

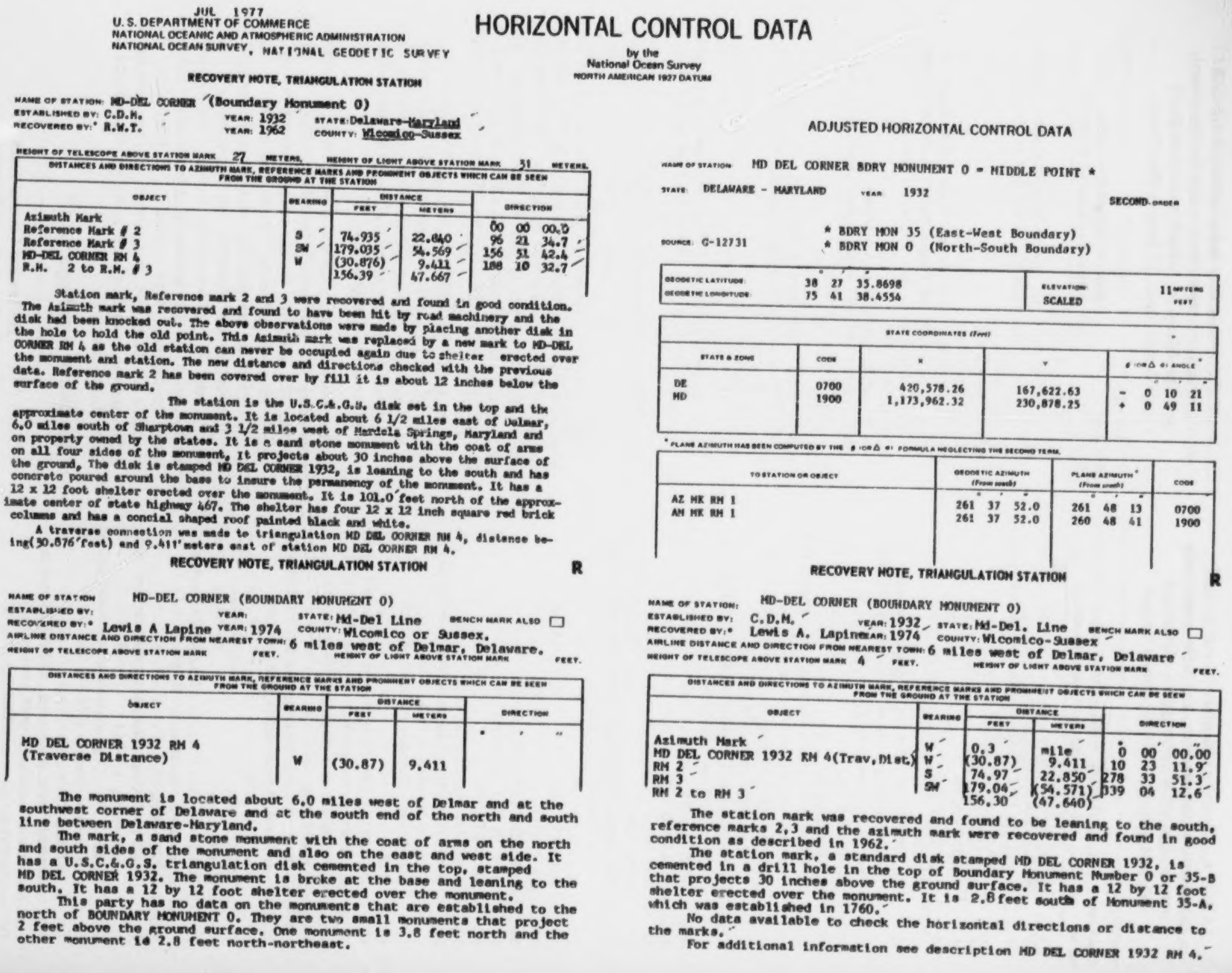
Results obtained from the C&GS resurvey of the Tangent Line give an average distance of 5,292 ft between stones set at 1-mile intervals by Mason and Dixon. This unit of 5,292 feet per mile is in close agreement with that of the colonial surveyors, which is confirmed by the following statement from the Mason-Dixon Journal:

> *In April 1767 William Lukens (Surveyor General of the Province of Pennsylvania) told me that our statute yard was the thickness of a piece of parchment shorter than theirs, with which they measured the Tangent Line.*

Horizontal control data and descriptions for each station along the north-south boundary appear on pages 104 to 290. Data for the boundary monuments are arranged in numerical order by monument number, and the traverse or triangulation stations are arranged in alphabetical order. Positions for Monuments 25, 45, 63, 73, and 75, as determined in the 1961-62 survey, are included in the horizontal control data although these monuments were moved at a later date. The positions of these five monuments, in their present location on the boundary, are given on data sheets that follow those noted:

"This position is no longer valid."

Horizontal Control Data
for North-South Boundary
pages 104 to 290



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MD-DEL CORNER (Boundary Monument 0)
ESTABLISHED BY: C.D.H. YEAR: 1932 STATE: Delaware-Maryland
RECOVERED BY:* R.W.T. YEAR: 1962 COUNTY: Wicomico-Sussex

HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 31 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark				00 00 00.0
Reference Mark # 2	S	74.935	22.840	96 21 34.7
Reference Mark # 3	SW	179.035	54.569	156 51 42.4
MD-DEL CORNER RM 4	W	(30.876)	9.411	188 10 32.7
R.H. 2 to R.M. # 3		156.39	47.667	

Station mark, Reference mark 2 and 3 were recovered and found in good condition. The Azimuth mark was recovered and found to have been hit by road machinery and the disk had been knocked out. The above observations were made by placing another disk in the hole to hold the old point. This Azimuth mark was replaced by a new mark to MD-DEL CORNER RM 4 as the old station can never be occupied again due to shelter erected over the monument and station. The new distance and directions checked with the previous data. Reference mark 2 has been covered over by fill it is about 12 inches below the surface of the ground.

The station is the U.S.C.&.G.S. disk set in the top and the approximate center of the monument. It is located about 6 1/2 miles east of Delmar, 6.0 miles south of Sharptown and 3 1/2 miles west of Mardela Springs, Maryland and on property owned by the states. It is a sand stone monument with the coat of arms on all four sides of the monument, It projects about 30 inches above the surface of the ground, The disk is stamped MD DEL CORNER 1932, is leaning to the south and has concrete poured around the base to insure the permanency of the monument. It has a 12 x 12 foot shelter erected over the monument. It is 101.0 feet north of the approximate center of state highway 467. The shelter has four 12 x 12 inch square red brick columns and has a concial shaped roof painted black and white.

A traverse connection was made to triangulation MD DEL CORNER RM 4, distance being(30.876'feet) and 9.411'meters east of station MD DEL CORNER RM 4.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION MD-DEL CORNER (BOUNDARY MONUMENT 0)
ESTABLISHED BY: YEAR: STATE: Md-Del Line BENCH MARK ALSO ☐
RECOVERED BY:* Lewis A Lapine YEAR: 1974 COUNTY: Wicomico or Sussex.
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 6 miles west of Delmar, Delaware.
HEIGHT OF TELESCOPE ABOVE STATION MARK FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
MD DEL CORNER 1932 RM 4 (Traverse Distance)	W	(30.87)	9.411	

The monument is located about 6.0 miles west of Delmar and at the southwest corner of Delaware and at the south end of the north and south line between Delaware-Maryland.

The mark, a sand stone monument with the coat of arms on the north and south sides of the monument and also on the east and west side. It has a U.S.C.&.G.S. triangulation disk cemented in the top, stamped MD DEL CORNER 1932. The monument is broke at the base and leaning to the south. It has a 12 by 12 foot shelter erected over the monument.

This party has no data on the monuments that are established to the north of BOUNDARY MONUMENT 0. They are two small monuments that project 2 feet above the ground surface. One monument is 3.8 feet north and the other monument is 2.8 feet north-northeast.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MD DEL CORNER BDRY MONUMENT 0 = MIDDLE POINT *
STATE DELAWARE - MARYLAND YEAR 1932 SECOND-ORDER

SOURCE: G-12731

* BDRY MON 35 (East-West Boundary)
* BDRY MON 0 (North-South Boundary)

GEODETIC LATITUDE:	38 27 35.8698	ELEVATION:	11 METERS
GEODETIC LONGITUDE:	75 41 38.4556	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
DE	0700	420,578.26	167,622.63	− 0 10 21
MD	1900	1,173,962.32	230,878.25	+ 0 49 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK RM 1	261 37 52.0	261 48 13	0700
AM MK RM 1	261 37 52.0	260 48 41	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MD-DEL CORNER (BOUNDARY MONUMENT 0)
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Md-Del. Line BENCH MARK ALSO ☐
RECOVERED BY:* Lewis A. Lapine YEAR: 1974 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 6 miles west of Delmar, Delaware
HEIGHT OF TELESCOPE ABOVE STATION MARK 4 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

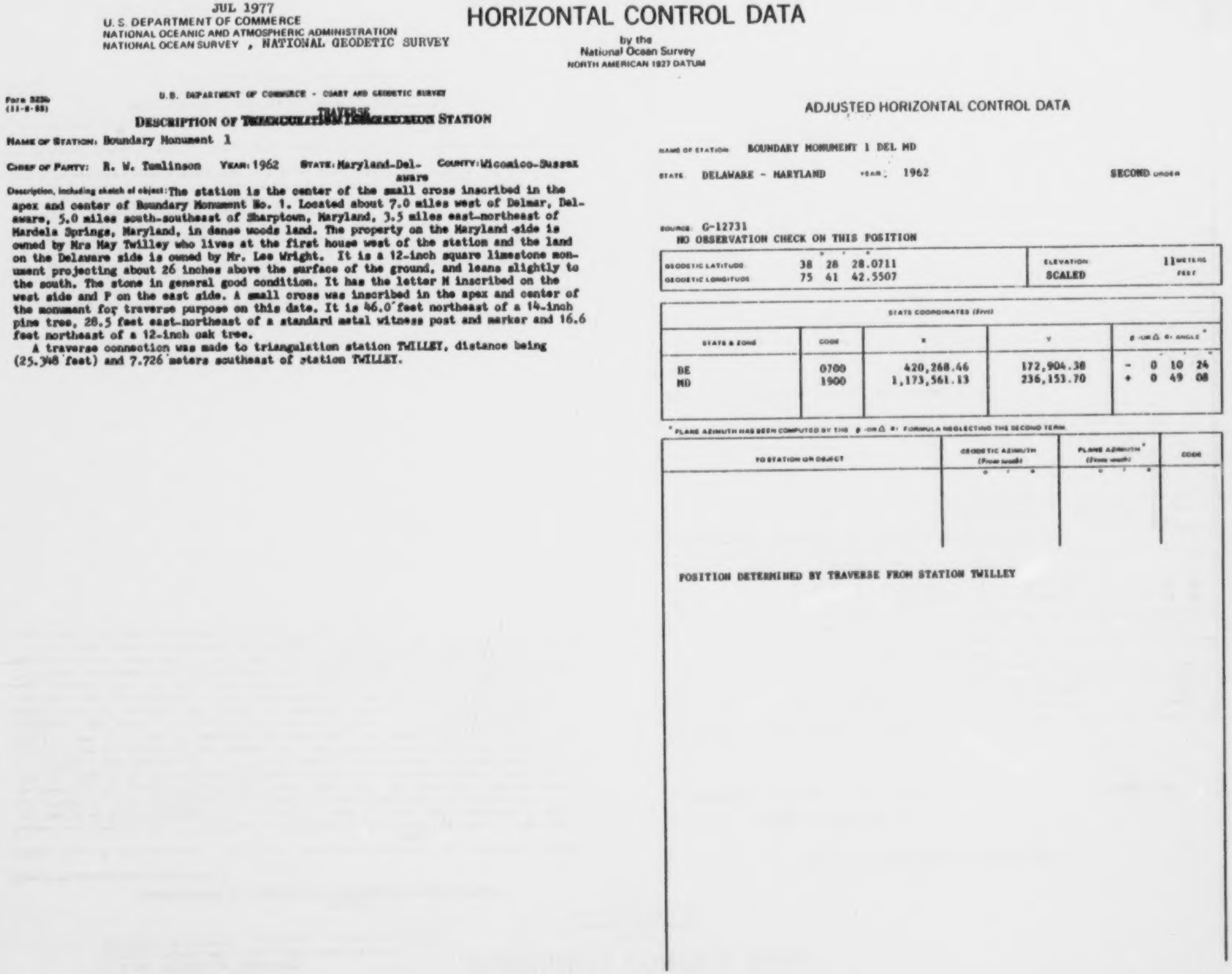
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark	W	0.3	mile	0 00 00.00
MD DEL CORNER 1932 RM 4(Trav,Dist)	W	(30.87)	9.411	10 23 11.9
RM 2	S	74.97	22.850	278 33 51.3
RM 3	SW	179.04	(54.571)	339 04 12.6
RM 2 to RM 3		156.30	(47.640)	

The station mark was recovered and found to be leaning to the south, reference marks 2,3 and the azimuth mark were recovered and found in good condition as described in 1962.

The station mark, a standard disk stamped MD DEL CORNER 1932, is cemented in a drill hole in the top of Boundary Monument Number 0 or 35-B that projects 30 inches above the ground surface. It has a 12 by 12 foot shelter erected over the monument. It is 2.8 feet south of Monument 35-A, which was established in 1760.

No data available to check the horizontal directions or distance to the marks.

For additional information see description MD DEL CORNER 1932 RM 4.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

Name of Station: Boundary Monument 1

Chief of Party: R. W. Tomlinson **Year:** 1962 **State:** Maryland-Delaware **County:** Wicomico-Sussex

Description, including sketch of object: The station is the center of the small cross inscribed in the apex and center of Boundary Monument No. 1. Located about 7.0 miles west of Delmar, Delaware, 5.0 miles south-southeast of Sharptown, Maryland, 3.5 miles east-northeast of Mardela Springs, Maryland, in dense woods land. The property on the Maryland side is owned by Mrs May Twilley who lives at the first house west of the station and the land on the Delaware side is owned by Mr. Lee Wright. It is a 12-inch square limestone monument projecting about 26 inches above the surface of the ground, and leans slightly to the south. The stone in general good condition. It has the letter M inscribed on the west side and P on the east side. A small cross was inscribed in the apex and center of the monument for traverse purpose on this date. It is 46.0 feet northeast of a 14-inch pine tree, 28.5 feet east-northeast of a standard metal witness post and marker and 16.6 feet northeast of a 12-inch oak tree.

A traverse connection was made to triangulation station TWILLEY, distance being (25.348 feet) and 7.726 meters southeast of station TWILLEY.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 1 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

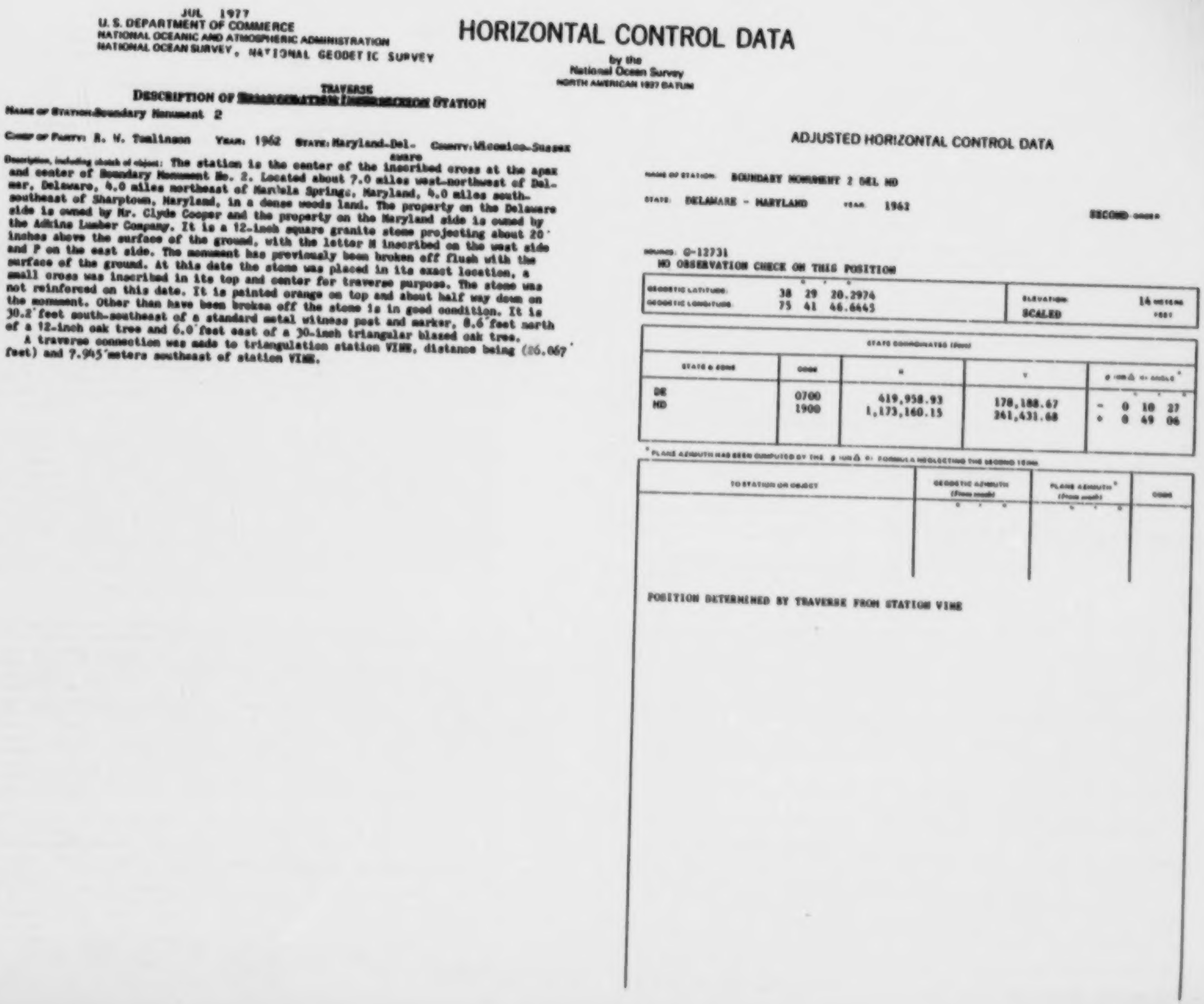
	° ′ ″		
GEODETIC LATITUDE	38 28 28.0711	ELEVATION	11 METERS
GEODETIC LONGITUDE	75 41 42.5507	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
				° ′ ″
DE	0700	420,268.46	172,904.38	- 0 10 24
MD	1900	1,173,561.13	236,153.70	+ 0 49 08

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION TWILLEY



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

Name of Station: Boundary Monument 2

Chief of Party: R. W. Tomlinson Year: 1962 State: Maryland-Delaware County: Wicomico-Sussex

Description, including sketch of object: The station is the center of the inscribed cross at the apex and center of Boundary Monument No. 2. Located about 7.0 miles west-northwest of Delmar, Delaware, 4.0 miles northeast of Mardela Springs, Maryland, 4.0 miles south-southeast of Sharptown, Maryland, in a dense woods land. The property on the Delaware side is owned by Mr. Clyde Cooper and the property on the Maryland side is owned by the Adkins Lumber Company. It is a 12-inch square granite stone projecting about 20' inches above the surface of the ground, with the letter M inscribed on the west side and P on the east side. The monument has previously been broken off flush with the surface of the ground. At this date the stone was placed in its exact location, a small cross was inscribed in its top and center for traverse purpose. The stone was not reinforced on this date. It is painted orange on top and about half way down on the monument. Other than have been broken off the stone is in good condition. It is 30.2' feet south-southeast of a standard metal witness post and marker, 8.6' feet north of a 12-inch oak tree and 6.0' feet east of a 30-inch triangular blazed oak tree.

A traverse connection was made to triangulation station VINE, distance being (26.067' feet) and 7.945' meters southeast of station VINE.

ADJUSTED HORIZONTAL CONTROL DATA

Name of Station: BOUNDARY MONUMENT 2 DEL MD

State: DELAWARE - MARYLAND Year: 1962 SECOND ORDER

Source: G-12731
NO OBSERVATION CHECK ON THIS POSITION

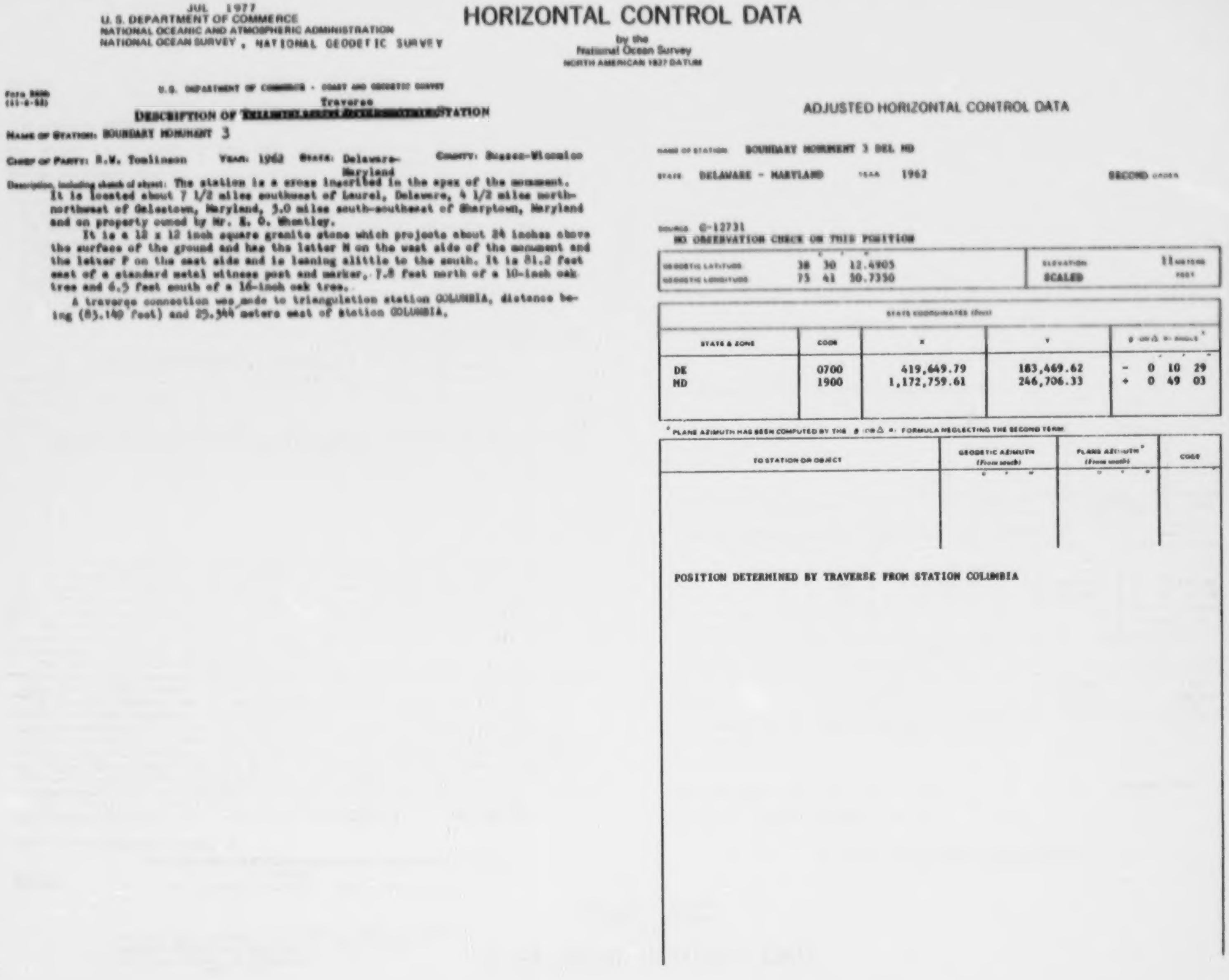
	° ′ ″		
GEODETIC LATITUDE:	38 29 20.2974	ELEVATION:	14 METERS
GEODETIC LONGITUDE:	75 41 46.6445	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (or Δα) or ANGLE* ° ′ ″
DE	0700	419,958.93	170,188.67	− 0 10 27
MD	1900	1,173,160.15	241,431.68	+ 0 49 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION VINE



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ Traverse STATION

NAME OF STATION: BOUNDARY MONUMENT 3

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 STATE: Delaware-Maryland COUNTY: Sussex-Wicomico

Description, including sketch of object: The station is a cross inscribed in the apex of the monument. It is located about 7 1/2 miles southwest of Laurel, Delaware, 4 1/2 miles north-northwest of Galestown, Maryland, 3.0 miles south-southeast of Sharptown, Maryland and on property owned by Mr. E. O. Wheatley.

It is a 12 x 12 inch square granite stone which projects about 24 inches above the surface of the ground and has the letter M on the west side of the monument and the letter P on the east side and is leaning alittle to the south. It is 81.2 feet east of a standard metal witness post and marker, 7.8 feet north of a 10-inch oak tree and 6.5 feet south of a 16-inch oak tree.

A traverse connection was made to triangulation station COLUMBIA, distance being (83.149 feet) and 25.344 meters east of station COLUMBIA.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 3 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	38	30	12.4905	ELEVATION	11 METERS
GEODETIC LONGITUDE	75	41	50.7350	SCALED	FEET

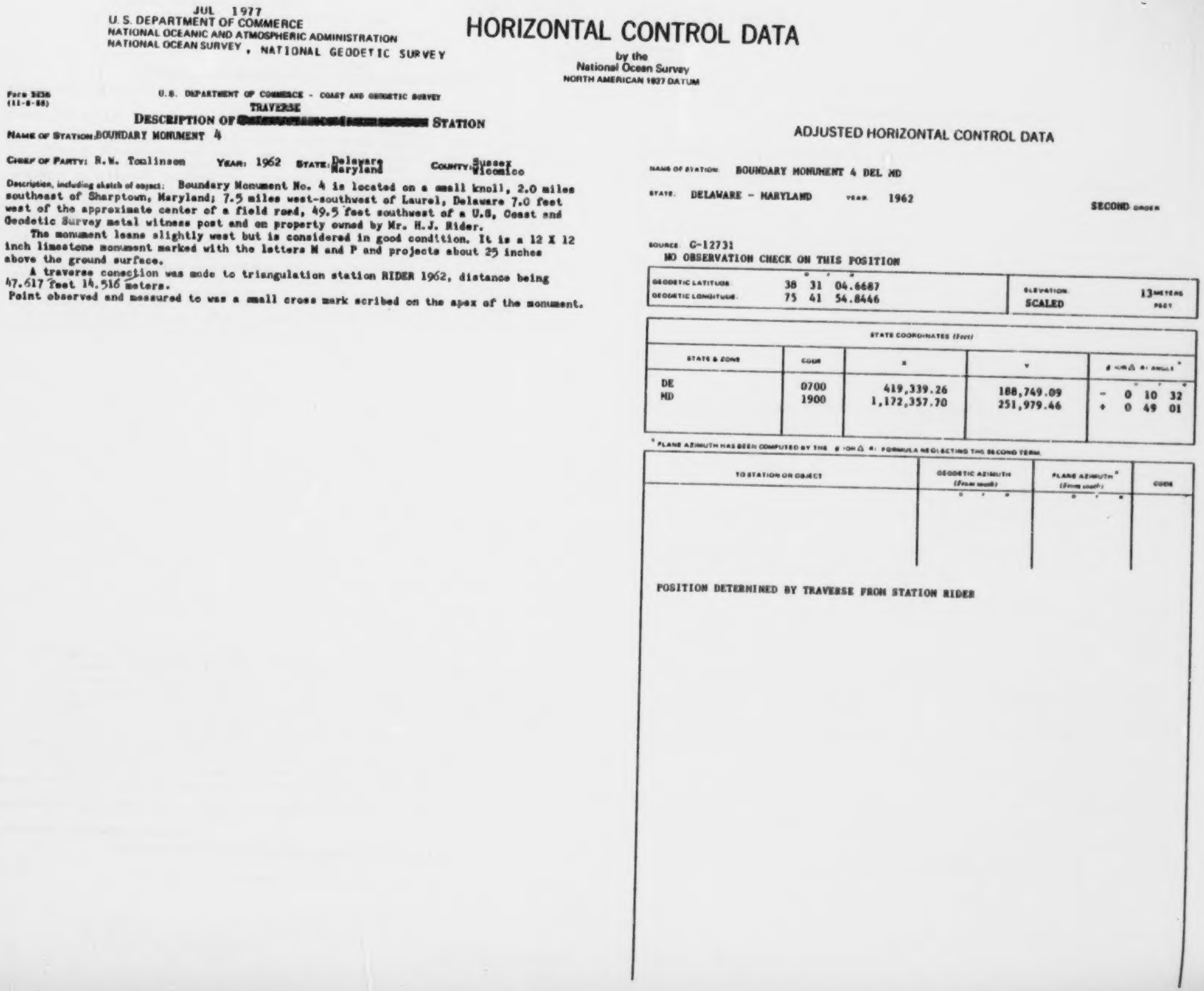
STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	419,649.79	183,469.62	- 0 10 29
MD	1900	1,172,759.61	246,706.33	+ 0 49 03

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION COLUMBIA



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE [redacted] STATION

NAME OF STATION: BOUNDARY MONUMENT 4

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 STATE: Delaware
Maryland COUNTY: Sussex
Wicomico

Description, including sketch of object: Boundary Monument No. 4 is located on a small knoll, 2.0 miles southeast of Sharptown, Maryland; 7.5 miles west-southwest of Laurel, Delaware 7.0 feet west of the approximate center of a field road, 49.5 feet southwest of a U.S, Coast and Geodetic Survey metal witness post and on property owned by Mr. H.J. Rider.

The monument leans slightly west but is considered in good condition. It is a 12 X 12 inch limestone monument marked with the letters M and P and projects about 25 inches above the ground surface.

A traverse conection was made to triangulation station RIDER 1962, distance being 47.617 feet 14.516 meters.

Point observed and measured to was a small cross mark scribed on the apex of the monument.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 4 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 31 04.6687	ELEVATION: SCALED	13 METERS
GEODETIC LONGITUDE	75 41 54.8446		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE*
				° ′ ″
DE	0700	419,339.26	188,749.09	- 0 10 32
MD	1900	1,172,357.70	251,979.46	+ 0 49 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION RIDER

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [illegible] STATION

NAME OF STATION: BOUNDARY MONUMENT 5

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 STATE: Maryland-Delaware COUNTY: Wicomico-Sussex

Description, including sketch of object: The station is the small cross inscribed in the top and center of the Boundary Monument No. 5. Located about 1.0 mile east-southeast of Sharptown, Maryland, along the east side of a north and south track road and on property owned by Mr. Rider. It is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, with the Coat of Arms on the east and west sides and is chipped on the east side near the top. The monument is plumb and in general good condition. A small cross was inscribed in its top and center for traverse purpose. It is 69.5 feet north of a standard metal witness post and marker, 42.0 feet north-northwest of a twin trunked triangular blazed white oak tree.

A traverse connection was made to triangulation station SHARPTOWN, distance being 19.240 meters and (63.123) feet north of station SHARPTOWN.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 5
STATE: Maryland
Delaware COUNTY: Dorcester
Sussex
NEAREST TOWN: Sharptown QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.! HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The old monument was found about 5 miles east of the original point, in the prone position in the front of a barn owned by Mr. Donald Ralph. Mr. Ralph had found the monument along a road with a chain around it. The old monument has deep chain marks around the upper part of it. The old monument was reset in the same position as it was found in 1961.

The monument is located about 5 miles north of the Maryland-Delaware corner boundary 6 miles west-northwest of Delmar and 1 mile east of Sharptown. It is on road right-of-way.

To reach from the intersection of State Highways 313 and 348 in Sharptown, go east on State Highway 348 for 1.7 miles to a side road left at the state line. Turn left and go north on a dirt road for 0.75 mile to the monument on the right.

The surface mark is a Maryland-Delaware Crown Stone with a small cross out in the apex of the 12-inch square limestone monument which projects 2 1/2 feet. The sub-surface is marked with a Maryland-Delaware Boundary Disk stamped N-S NO. 5 1976, set in an 8-inch mass of concrete 42 inches below the surface. They are 66 feet north of a witness post, 42 feet north of a triangular blazed tree, 7 feet east of the center of the sand road, and 1.3 feet northeast of a witness post.

For additional information, see description for Triangulation Station SHARPTOWN.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 5 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

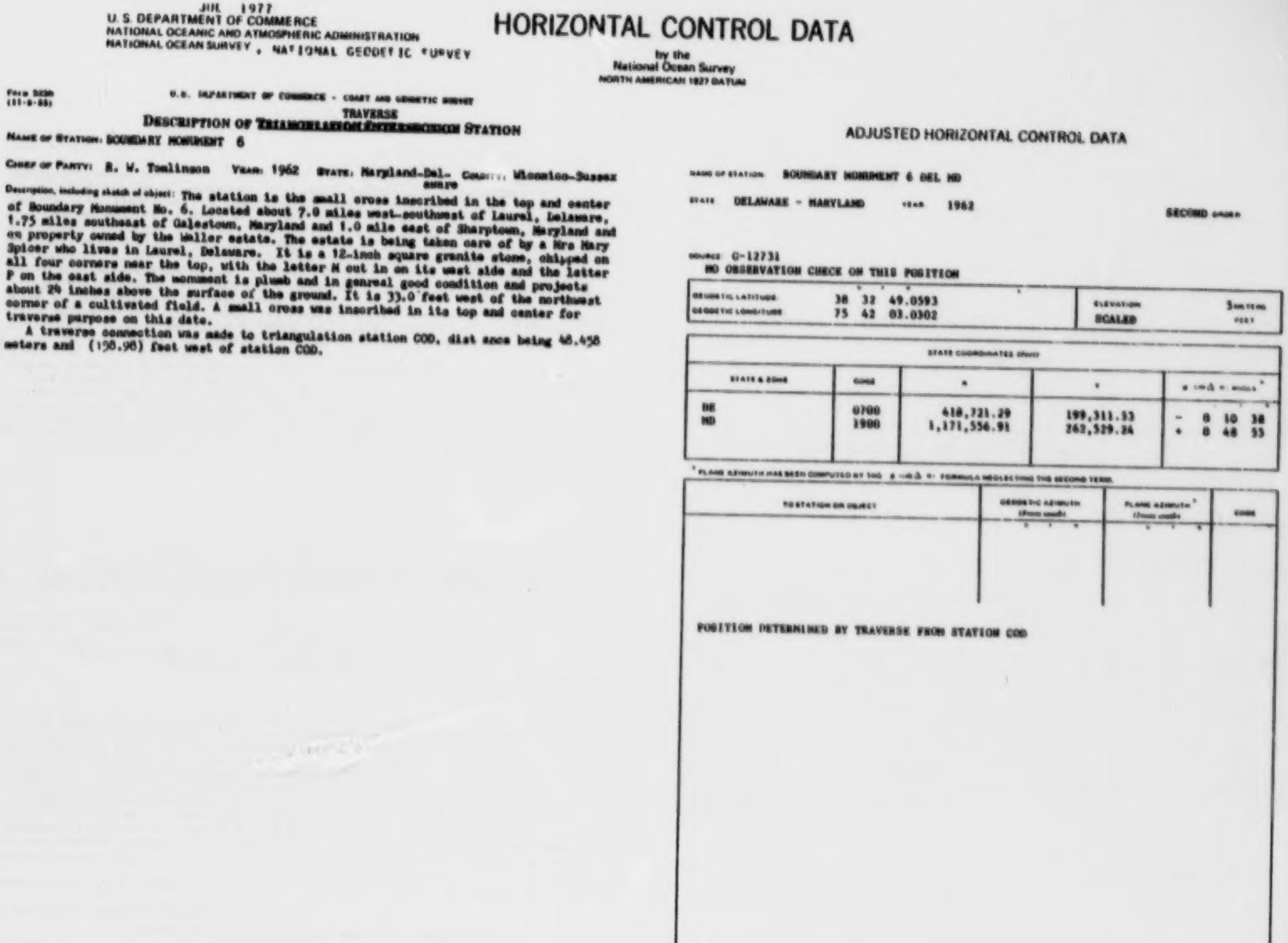
	°	′	″		
GEODETIC LATITUDE	38	31	56.8268	ELEVATION	10 METERS
GEODETIC LONGITUDE	75	41	58.9294	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ OR Δα ANGLE* ° ′ ″
DE	0700	419,030.83	194,026.56	- 0 10 35
MD	1900	1,171,957.93	257,250.59	+ 0 48 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SHARPTOWN



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 523b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 6

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1962 **STATE:** Maryland-Delaware **COUNTY:** Wicomico-Sussex

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 6. Located about 7.0 miles west-southwest of Laurel, Delaware, 1.75 miles southeast of Galestown, Maryland and 1.0 mile east of Sharptown, Maryland and on property owned by the Weller estate. The estate is being taken care of by a Mrs Mary Spicer who lives in Laurel, Delaware. It is a 12-inch square granite stone, chipped on all four corners near the top, with the letter M cut in on its west side and the letter P on the east side. The monument is plumb and in genreal good condition and projects about 24 inches above the surface of the ground. It is 33.0 feet west of the northwest corner of a cultivated field. A small cross was inscribed in its top and center for traverse purpose on this date.

A traverse connection was made to triangulation station COD, dist ance being 48.458 meters and (158.98) feet west of station COD.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 6 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

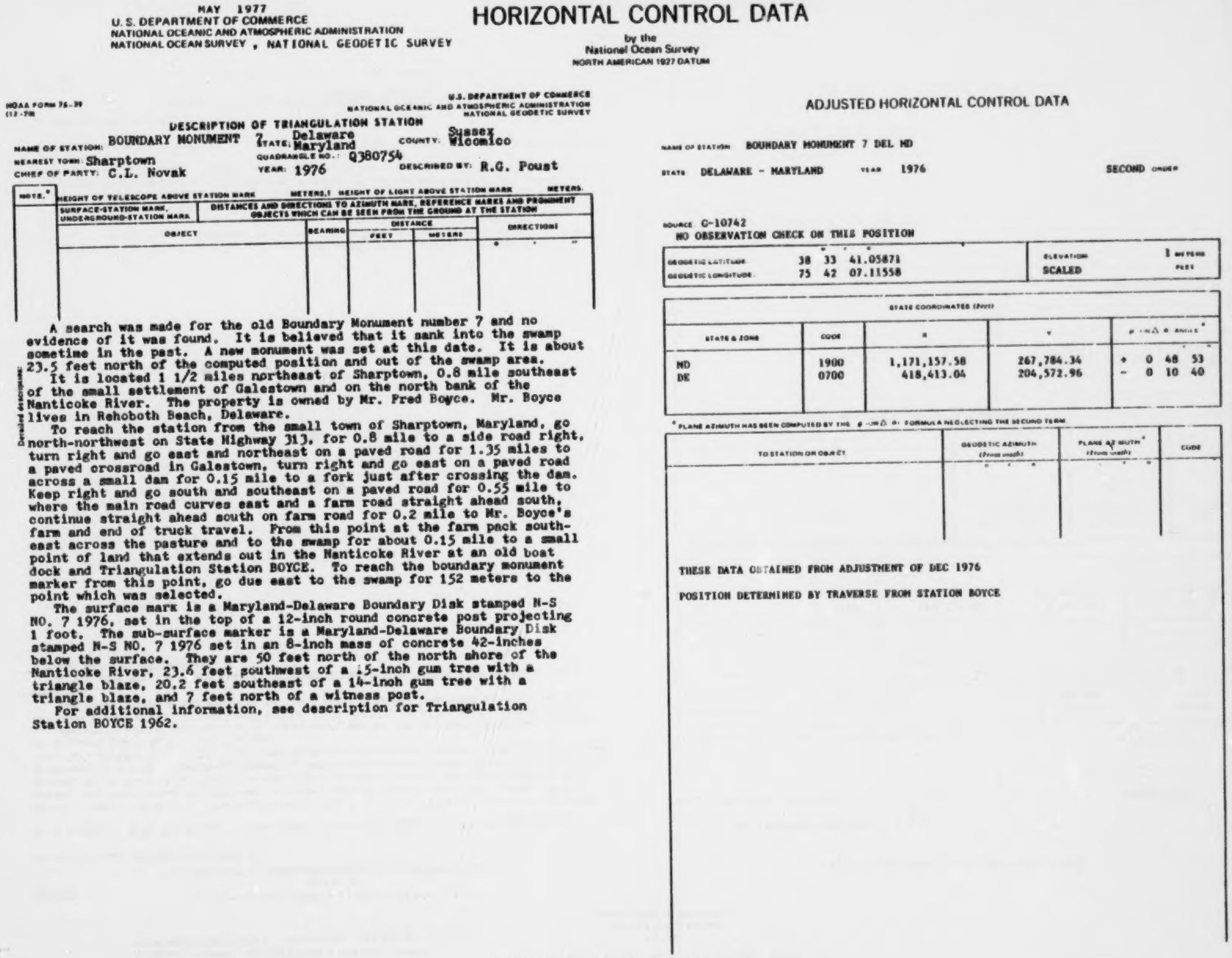
	°	′	″	ELEVATION	
GEODETIC LATITUDE	38	32	49.0593		3 METERS
GEODETIC LONGITUDE	75	42	03.0302	SCALED	FEET

STATE COORDINATES (feet)						
STATE & ZONE	CODE	X	Y	θ = Δλ sin φ = ANGLE* °	′	″
DE MD	0700 1900	418,721.29 1,171,556.91	199,311.53 262,529.24	- 0 + 0	10 48	38 55

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION COD



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 7 STATE: Delaware Maryland COUNTY: Sussex Wicomico
NEAREST TOWN: Sharptown QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTION
			FEET	METERS	° ′ ″

Detailed description:

A search was made for the old Boundary Monument number 7 and no evidence of it was found. It is believed that it sank into the swamp sometime in the past. A new monument was set at this date. It is about 23.5 feet north of the computed position and out of the swamp area.

It is located 1 1/2 miles northeast of Sharptown, 0.8 mile southeast of the small settlement of Galestown and on the north bank of the Nanticoke River. The property is owned by Mr. Fred Boyce. Mr. Boyce lives in Rehoboth Beach, Delaware.

To reach the station from the small town of Sharptown, Maryland, go north-northwest on State Highway 313, for 0.8 mile to a side road right, turn right and go east and northeast on a paved road for 1.35 miles to a paved crossroad in Galestown, turn right and go east on a paved road across a small dam for 0.15 mile to a fork just after crossing the dam. Keep right and go south and southeast on a paved road for 0.55 mile to where the main road curves east and a farm road straight ahead south, continue straight ahead south on farm road for 0.2 mile to Mr. Boyce's farm and end of truck travel. From this point at the farm pack southeast across the pasture and to the swamp for about 0.15 mile to a small point of land that extends out in the Nanticoke River at an old boat dock and Triangulation Station BOYCE. To reach the boundary monument marker from this point, go due east to the swamp for 152 meters to the point which was selected.

The surface mark is a Maryland-Delaware Boundary Disk stamped N-S NO. 7 1976, set in the top of a 12-inch round concrete post projecting 1 foot. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped N-S NO. 7 1976 set in an 8-inch mass of concrete 42-inches below the surface. They are 50 feet north of the north shore of the Nanticoke River, 23.6 feet southwest of a 15-inch gum tree with a triangle blaze, 20.2 feet southeast of a 14-inch gum tree with a triangle blaze, and 7 feet north of a witness post.

For additional information, see description for Triangulation Station BOYCE 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 7 DEL MD
STATE DELAWARE - MARYLAND YEAR 1976 SECOND ORDER

SOURCE G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION	1 METERS FEET
GEODETIC LATITUDE	38 33 41.05871	SCALED	
GEODETIC LONGITUDE	75 42 07.11558		

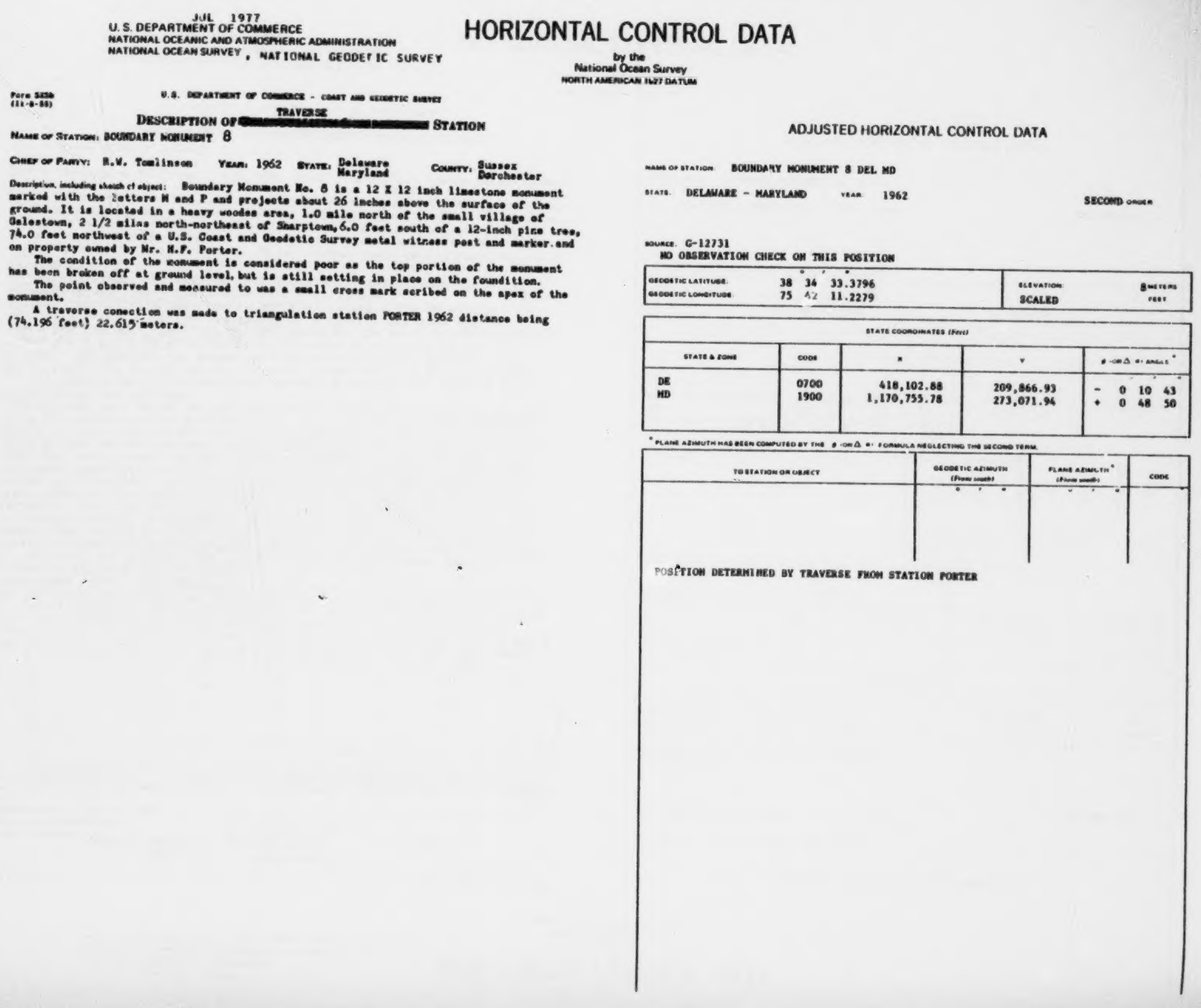
STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR $\Delta\alpha$ ANGLE*
				° ′ ″
MD	1900	1,171,157.58	267,784.34	+ 0 48 53
DE	0700	418,413.04	204,572.96	- 0 10 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR $\Delta\alpha$ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (from south)	PLANE AZIMUTH* (from south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION BOYCE



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE [redacted] **STATION**

NAME OF STATION: BOUNDARY MONUMENT 8

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Delaware Maryland **COUNTY:** Sussex Dorchester

Description, including sketch of object: Boundary Monument No. 8 is a 12 X 12 inch limestone monument marked with the letters M and P and projects about 26 inches above the surface of the ground. It is located in a heavy woodes area, 1.0 mile north of the small village of Galestown, 2 1/2 miles north-northeast of Sharptown, 6.0 feet south of a 12-inch pine tree, 74.0 feet northwest of a U.S. Coast and Geodetic Survey metal witness post and marker and on property owned by Mr. H.F. Porter.

The condition of the monument is considered poor as the top portion of the monument has been broken off at ground level, but is still setting in place on the foundition.

The point observed and measured to was a small cross mark scribed on the apex of the monument.

A traverse conection was made to triangulation station PORTER 1962 distance being (74.196 feet) 22.615 meters.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 8 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

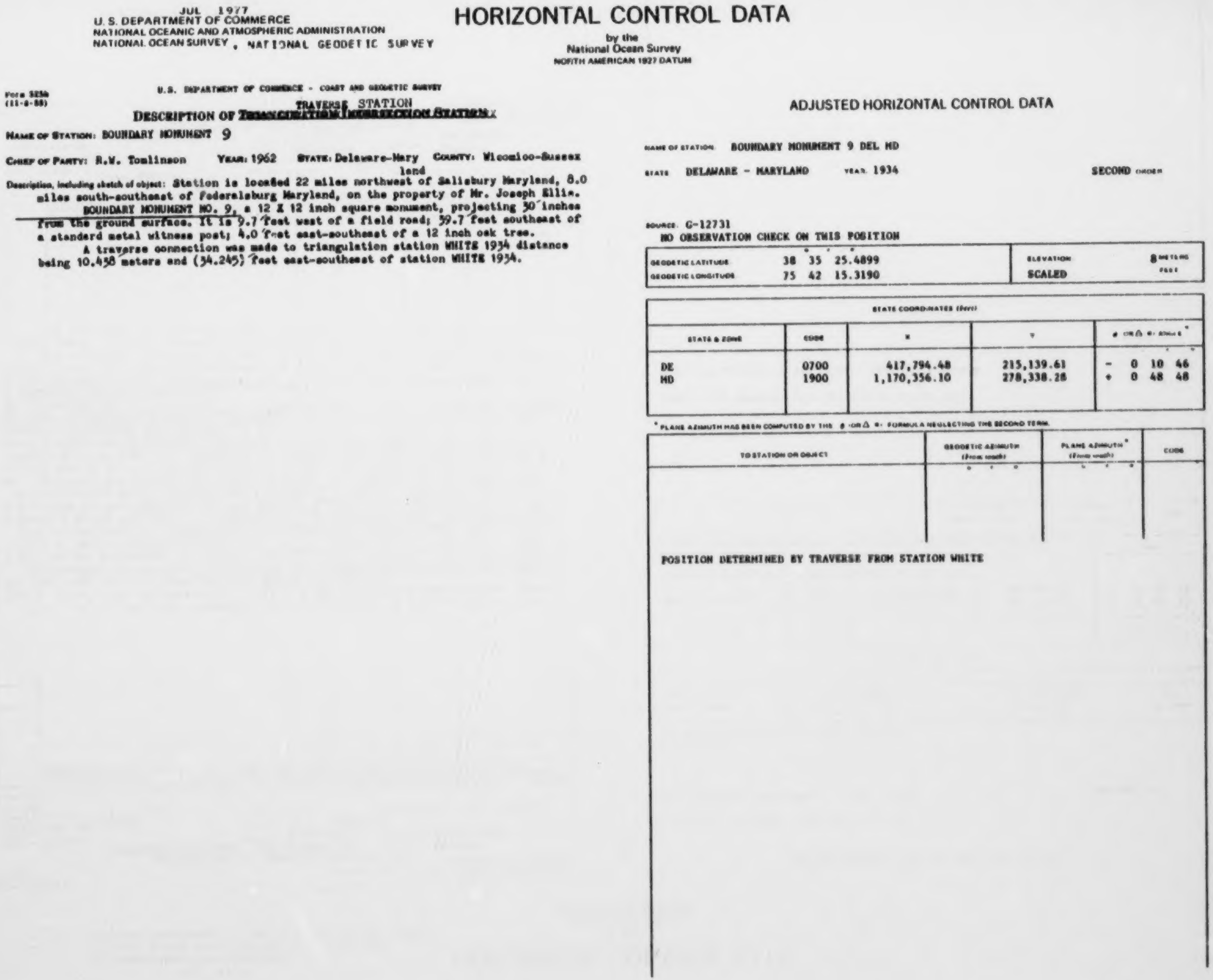
	° ′ ″		
GEODETIC LATITUDE:	38 34 33.3796	ELEVATION:	8 METERS
GEODETIC LONGITUDE:	75 42 11.2279	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	418,102.88	209,866.93	− 0 10 43
MD	1900	1,170,755.78	273,071.94	+ 0 48 50

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PORTER



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE STATION ~~TRIANGULATION/INTERSECTION STATION~~

NAME OF STATION: BOUNDARY MONUMENT 9

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 STATE: Delaware-Maryland COUNTY: Wicomico-Sussex

Description, including sketch of object: Station is located 22 miles northwest of Salisbury Maryland, 8.0 miles south-southeast of Federalsburg Maryland, on the property of Mr. Joseph Ellis.

BOUNDARY MONUMENT NO. 9, a 12 X 12 inch square monument, projecting 30 inches from the ground surface. It is 9.7 feet west of a field road; 39.7 feet southeast of a standard metal witness post; 4.0 feet east-southeast of a 12 inch oak tree.

A traverse connection was made to triangulation station WHITE 1934 distance being 10.438 meters and (34.245) feet east-southeast of station WHITE 1934.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 9 DEL MD

STATE DELAWARE - MARYLAND YEAR 1934 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 35 25.4899	ELEVATION	8 METERS
GEODETIC LONGITUDE	75 42 15.3190	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα: ANGLE* ° ′ ″
DE	0700	417,794.48	215,139.61	- 0 10 46
MD	1900	1,170,356.10	278,338.28	+ 0 48 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WHITE

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 10 Delaware
NEAREST TOWN: Reliance
CHIEF OF PARTY: C.L. Novak
STATE: Maryland
QUADRANGLE NO.: Q380754
YEAR: 1976
COUNTY: Sussex Dorchester
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.) HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	° ′ ″

Detailed description

The position of this monument was found to be in the center of the south bound lane of State Line Road. A 24-inch round manhole was placed in the road and the monument set under the manhole.

The marker is located 5 1/2 miles west-southwest of Seaford, Delaware, 8 1/2 miles northwest of Laurel, Delaware, and 2 miles south of Reliance. It is on road right-of-way.

To reach from the intersection of Maryland State Highway 392 and 577, Delaware State Highway 20 in Reliance, go south on State Line Road for 2.1 miles to the manhole and the marker below the manhole.

The surface mark is a Maryland-Delaware Boundary Disk stamped N-S NO. 10 1976, set in the top of a 12-inch concrete monument which is 20 inches below the top of the manhole. The sub-surface disk is set in a 8-inch mass of concrete which is 48 inches below the surface of the road. They are 104 feet west of the northwest corner of Mr. Ralph Moore's house, 40 feet southwest of a powerline pole numbered 148 49, 26 feet southwest of Mr. Moore's mailbox, and 3 feet west of the center of the road.

For additional information, see description for station DELA 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 10 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 36 19.32365	ELEVATION:	9 METERS
GEODETIC LONGITUDE	75 42 19.55880	NO CHECK	FEET

STATE COORDINATES (Feet)

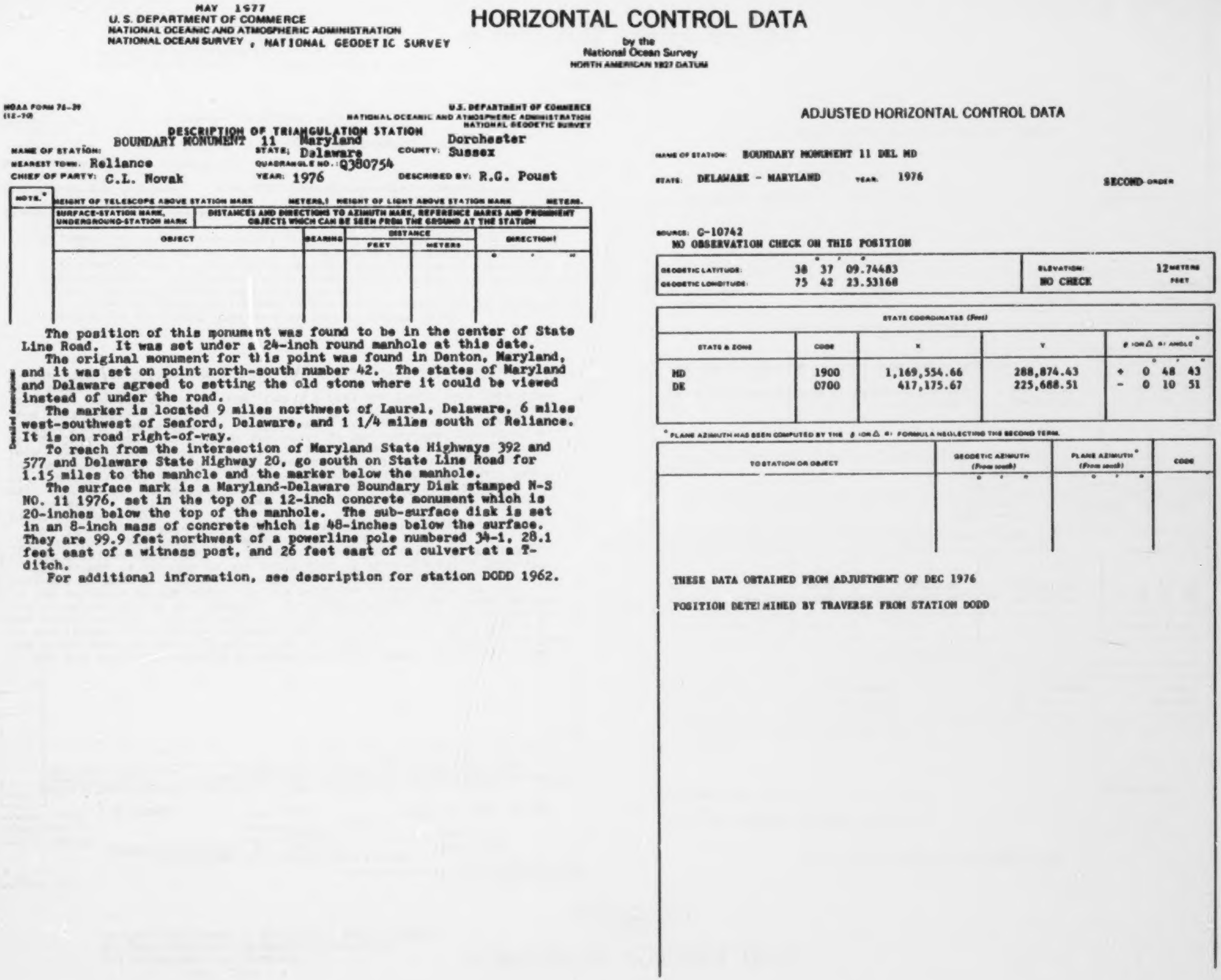
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE* ° ′ ″
MD	1900	1,169,942.27	283,778.79	+ 0 48 45
DE	0700	417,474.95	220,586.70	- 0 10 49

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION DELA



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 11
STATE: Maryland Delaware
COUNTY: Dorchester Sussex
NEAREST TOWN: Reliance
QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION†
				° ′ ″

Detailed description

The position of this monument was found to be in the center of State Line Road. It was set under a 24-inch round manhole at this date.

The original monument for this point was found in Denton, Maryland, and it was set on point north-south number 42. The states of Maryland and Delaware agreed to setting the old stone where it could be viewed instead of under the road.

The marker is located 9 miles northwest of Laurel, Delaware, 6 miles west-southwest of Seaford, Delaware, and 1 1/4 miles south of Reliance. It is on road right-of-way.

To reach from the intersection of Maryland State Highways 392 and 577 and Delaware State Highway 20, go south on State Line Road for 1.15 miles to the manhole and the marker below the manhole.

The surface mark is a Maryland-Delaware Boundary Disk stamped N-S NO. 11 1976, set in the top of a 12-inch concrete monument which is 20-inches below the top of the manhole. The sub-surface disk is set in an 8-inch mass of concrete which is 48-inches below the surface. They are 99.9 feet northwest of a powerline pole numbered 34-1, 28.1 feet east of a witness post, and 26 feet east of a culvert at a T-ditch.

For additional information, see description for station DODD 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 11 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 37 09.74483	ELEVATION:	12 METERS
GEODETIC LONGITUDE:	75 42 23.53168	NO CHECK	FEET

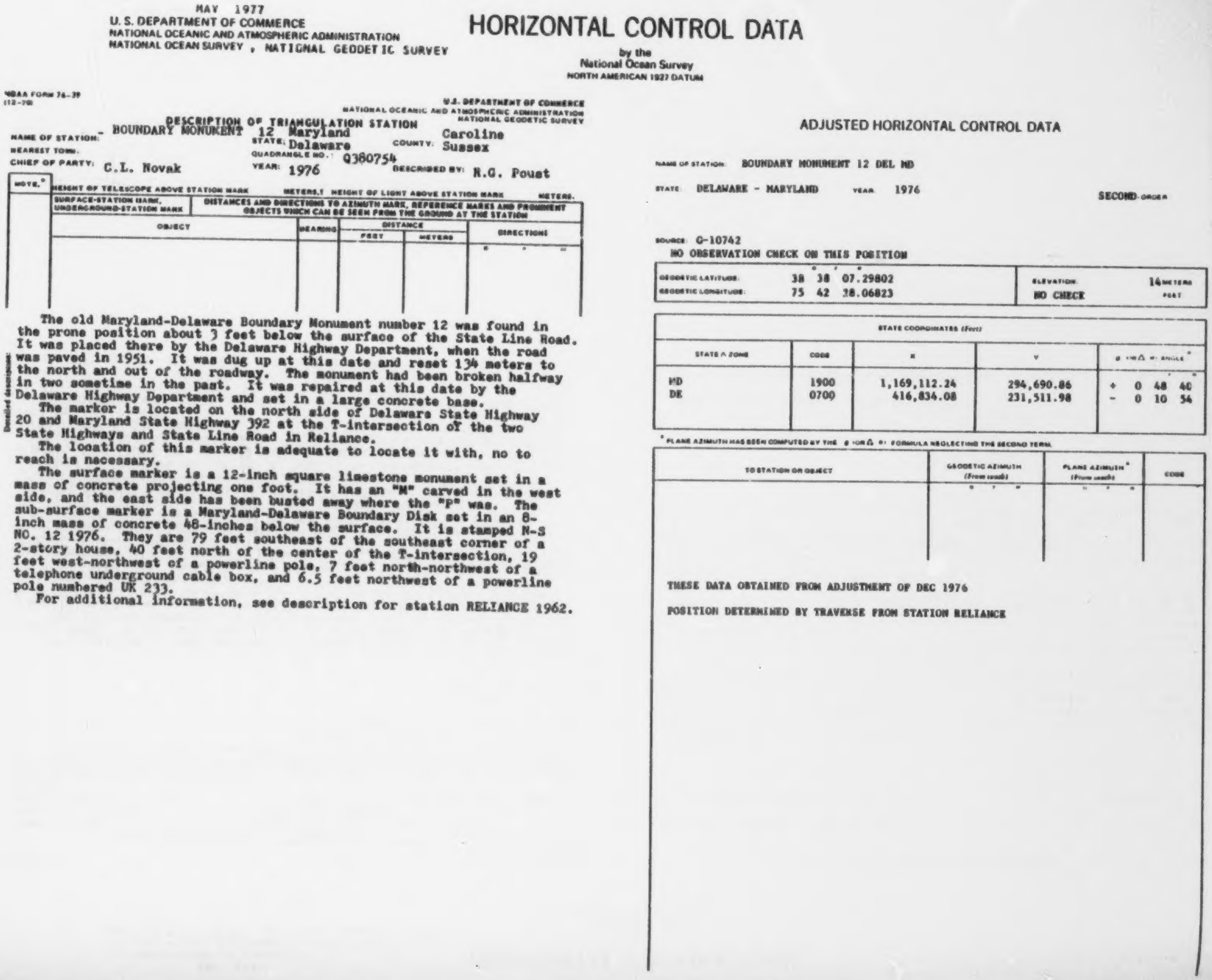
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
				° ′ ″
MD	1900	1,169,554.66	288,874.43	+ 0 48 43
DE	0700	417,175.67	225,688.51	- 0 10 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION DODD



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 12
NEAREST TOWN:
STATE: Maryland Delaware
COUNTY: Caroline Sussex
QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT		BEARING	DISTANCE		DIRECTIONS
				FEET	METERS	° ′ ″

Detailed description:

The old Maryland-Delaware Boundary Monument number 12 was found in the prone position about 3 feet below the surface of the State Line Road. It was placed there by the Delaware Highway Department, when the road was paved in 1951. It was dug up at this date and reset 134 meters to the north and out of the roadway. The monument had been broken halfway in two sometime in the past. It was repaired at this date by the Delaware Highway Department and set in a large concrete base.

The marker is located on the north side of Delaware State Highway 20 and Maryland State Highway 392 at the T-intersection of the two State Highways and State Line Road in Reliance.

The location of this marker is adequate to locate it with, no to reach is necessary.

The surface marker is a 12-inch square limestone monument set in a mass of concrete projecting one foot. It has an "M" carved in the west side, and the east side has been busted away where the "P" was. The sub-surface marker is a Maryland-Delaware Boundary Disk set in an 8-inch mass of concrete 48-inches below the surface. It is stamped N-S NO. 12 1976. They are 79 feet southeast of the southeast corner of a 2-story house, 40 feet north of the center of the T-intersection, 19 feet west-northwest of a powerline pole, 7 feet north-northwest of a telephone underground cable box, and 6.5 feet northwest of a powerline pole numbered UK 233.

For additional information, see description for station RELIANCE 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 12 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 38 07.29802	ELEVATION:	14 METERS
GEODETIC LONGITUDE:	75 42 38.06823	NO CHECK	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) = ANGLE* ° ′ ″
MD	1900	1,169,112.24	294,690.86	+ 0 48 40
DE	0700	416,834.08	231,511.98	- 0 10 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION RELIANCE

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION/INTERSECTION STATION~~

Name of Station: Boundary Monument 13

Chief of Party: R.W. Tomlinson **Year:** 1962 **State:** Delaware-Maryland **County:** Caroline-Sussex

Description, including sketch of object: Station is located about 1.0 mile north of the small settlement of Reliance, 5.0 miles southeast of Federalsburg Maryland, and about 5.5 miles west of Seaford Delaware, on the property owned by Mr. George Wright.

Boundary Monument No. 13, a 12 X 12 inch square monument, projecting 30 inches from ground surface, with an M on the west side and a P on the east side. It is 26.9 feet east-southeast of a standard metal witness post; 50.3 feet east-southeast of a 12 inch pine tree; 68.6 feet east of a woods road.

A traverse connection was made to triangulation station WRIGHT, distance being 17.035 meters and (55.889) feet east-southeast of station WRIGHT.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 13 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

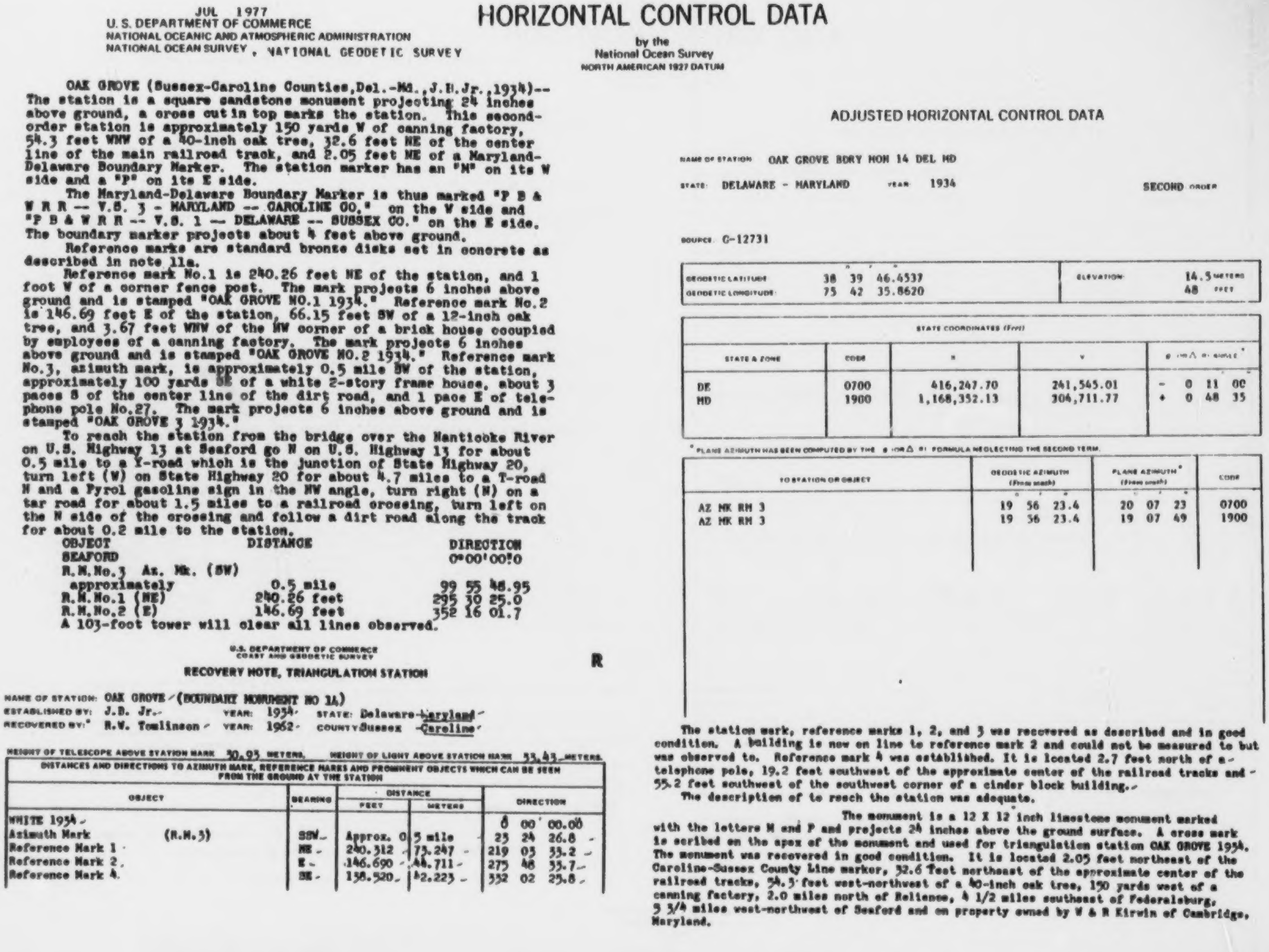
	° ′ ″		
GEODETIC LATITUDE	38 38 54.2896	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 42 31.7739	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE* ° ′ ″
DE	0700	416,555.16	236,266.80	− 0 10 57
MD	1900	1,168,750.99	299,439.92	+ 0 48 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WRIGHT



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

OAK GROVE (Sussex-Caroline Counties,Del.-Md.,J.H.Jr.,1934)--The station is a square sandstone monument projecting 24 inches above ground, a cross cut in top marks the station. This second-order station is approximately 150 yards W of canning factory, 54.3 feet WNW of a 40-inch oak tree, 32.6 feet NE of the center line of the main railroad track, and 2.05 feet NE of a Maryland-Delaware Boundary Marker. The station marker has an "M" on its W side and a "P" on its E side.

The Maryland-Delaware Boundary Marker is thus marked "P B & W R R -- V.S. 3 - MARYLAND -- CAROLINE CO." on the W side and "P B & W R R -- V.S. 1 -- DELAWARE -- SUSSEX CO." on the E side. The boundary marker projects about 4 feet above ground.

Reference marks are standard bronze disks set in concrete as described in note 11a.

Reference mark No.1 is 240.26 feet NE of the station, and 1 foot W of a corner fence post. The mark projects 6 inches above ground and is stamped "OAK GROVE NO.1 1934." Reference mark No.2 is 146.69 feet E of the station, 66.15 feet SW of a 12-inch oak tree, and 3.67 feet WNW of the NW corner of a brick house occupied by employees of a canning factory. The mark projects 6 inches above ground and is stamped "OAK GROVE NO.2 1934." Reference mark No.3, azimuth mark, is approximately 0.5 mile SW of the station, approximately 100 yards SE of a white 2-story frame house, about 3 paces S of the center line of the dirt road, and 1 pace E of telephone pole No.27. The mark projects 6 inches above ground and is stamped "OAK GROVE 3 1934."

To reach the station from the bridge over the Nanticoke River on U.S. Highway 13 at Seaford go N on U.S. Highway 13 for about 0.5 mile to a Y-road which is the junction of State Highway 20, turn left (W) on State Highway 20 for about 4.7 miles to a T-road N and a Pyrol gasoline sign in the NW angle, turn right (N) on a tar road for about 1.5 miles to a railroad crossing, turn left on the N side of the crossing and follow a dirt road along the track for about 0.2 mile to the station.

OBJECT	DISTANCE	DIRECTION
SEAFORD		0°00'00".0
R.M.No.3 Az. Mk. (SW) approximately	0.5 mile	99 55 48.95
R.M.No.1 (NE)	240.26 feet	295 30 25.0
R.M.No.2 (E)	146.69 feet	352 16 01.7

A 103-foot tower will clear all lines observed.

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: OAK GROVE (BOUNDARY MONUMENT NO 14)
ESTABLISHED BY: J.B. Jr. YEAR: 1934 STATE: Delaware-Maryland
RECOVERED BY:* R.W. Tomlinson YEAR: 1962 COUNTY Sussex -Caroline

HEIGHT OF TELESCOPE ABOVE STATION MARK 30.93 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33.43 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
WHITE 1934				0 00 00.00
Azimuth Mark (R.M.3)	SSW	Approx. 0.5 mile		23 24 26.8
Reference Mark 1	NE	240.312	73.247	219 03 33.2
Reference Mark 2	E	146.690	44.711	275 48 33.7
Reference Mark 4	SE	138.520	42.223	332 02 25.8

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION OAK GROVE BDRY MON 14 DEL MD
STATE DELAWARE - MARYLAND YEAR 1934 SECOND ORDER

SOURCE G-12731

		ELEVATION	
GEODETIC LATITUDE	38 39 46.4537		14.5 METERS
GEODETIC LONGITUDE	75 42 35.8620		48 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	416,247.70	241,545.01	- 0 11 00
MD	1900	1,168,352.13	304,711.77	+ 0 48 35

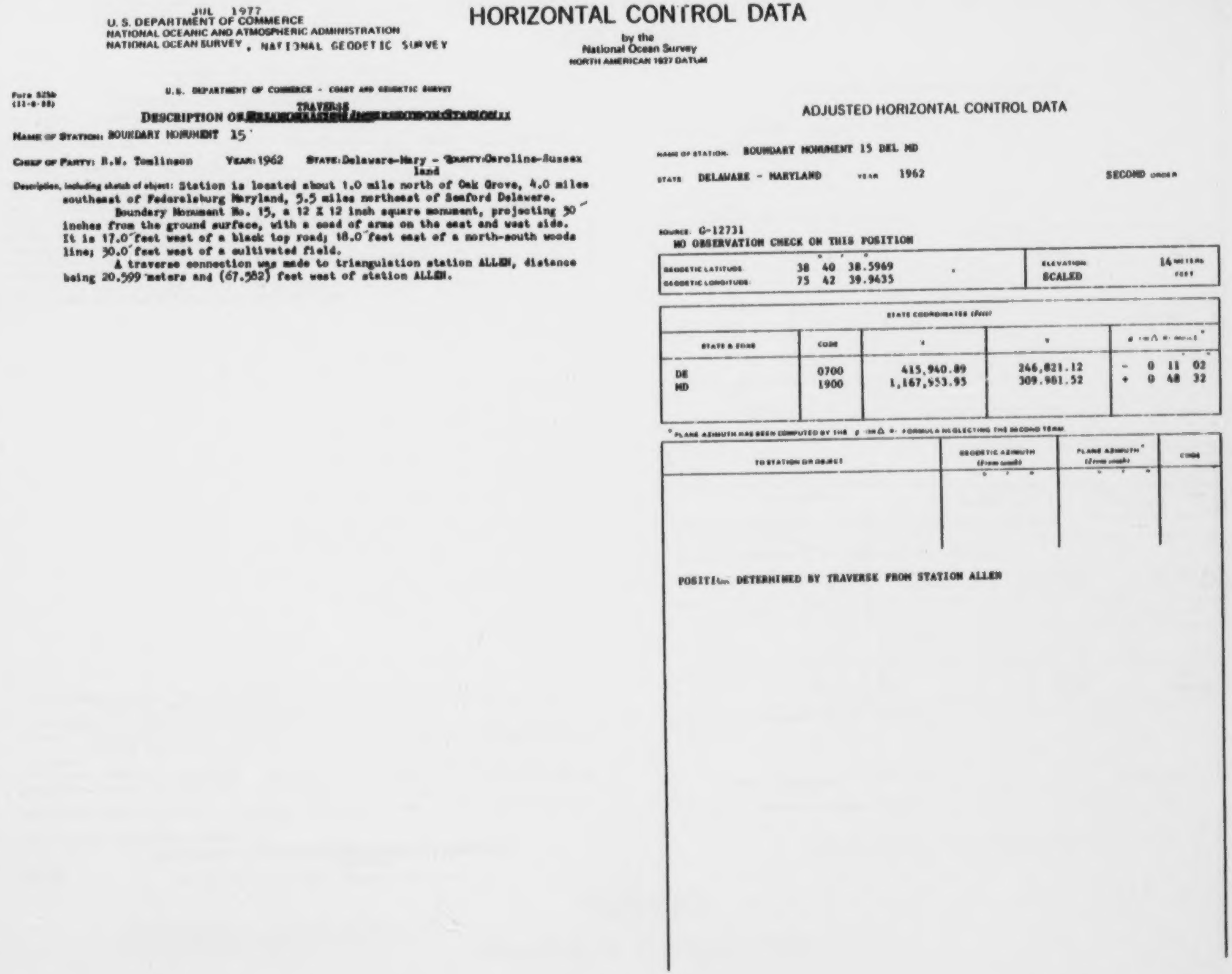
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK RM 3	19 56 23.4	20 07 23	0700
AZ MK RM 3	19 56 23.4	19 07 49	1900

The station mark, reference marks 1, 2, and 3 was recovered as described and in good condition. A building is now on line to reference mark 2 and could not be measured to but was observed to. Reference mark 4 was established. It is located 2.7 feet north of a telephone pole, 19.2 feet southwest of the approximate center of the railroad tracks and 55.2 feet southwest of the southwest corner of a cinder block building.

The description of to reach the station was adequate.

The monument is a 12 X 12 inch limestone monument marked with the letters M and P and projects 24 inches above the ground surface. A cross mark is scribed on the apex of the monument and used for triangulation station OAK GROVE 1934. The monument was recovered in good condition. It is located 2.05 feet northeast of the Caroline-Sussex County Line marker, 32.6 feet northeast of the approximate center of the railroad tracks, 54.3 feet west-northwest of a 40-inch oak tree, 150 yards west of a canning factory, 2.0 miles north of Reliance, 4 1/2 miles southeast of Federalsburg, 5 3/4 miles west-northwest of Seaford and on property owned by W & R Kirwin of Cambridge, Maryland.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~

NAME OF STATION: BOUNDARY MONUMENT 15

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Delaware-Maryland - **COUNTY:** Caroline-Sussex

Description, including sketch of object: Station is located about 1.0 mile north of Oak Grove, 4.0 miles southeast of Federalsburg Maryland, 5.5 miles northeast of Seaford Delaware.

Boundary Monument No. 15, a 12 X 12 inch square monument, projecting 30 inches from the ground surface, with a coad of arms on the east and west side. It is 17.0 feet west of a black top road; 18.0 feet east of a north-south woods line; 30.0 feet west of a cultivated field.

A traverse connection was made to triangulation station ALLEN, distance being 20.599 meters and (67.582) feet west of station ALLEN.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 15 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 40 38.5969	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 42 39.9435	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ = Δλ sin φ *
DE	0700	415,940.89	246,821.12	− 0 11 02
MD	1900	1,167,553.95	309.981.52	+ 0 48 32

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH * (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION ALLEN

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION [illegible]~~ TRAVERSE

NAME OF STATION: BOUNDARY MONUMENT 16

CHIEF OF PARTY: R.W. Trulinson **YEAR:** 1962 **STATE:** Delaware-Maryland **COUNTY:** Caroline-sussex

Description, including sketch of object: Station is located about 3.5 miles east of Federalsburg Maryland 6.5 miles southwest of Bridgeville Delaware. On the property owned by Mr. Ronald Johnson.

Boundary Monument No. 16, a 10 X 10 inch square monument, projecting 25 inches from the ground surface. It is 50.5 feet north of a east-west woods line; 115 feet northeast of a standard metal witness post.

A traverse connection was made to triangulation station TANYARD, distance being 33.999 meters and (111.545) feet east-northeast of station TANYARD.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 16 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

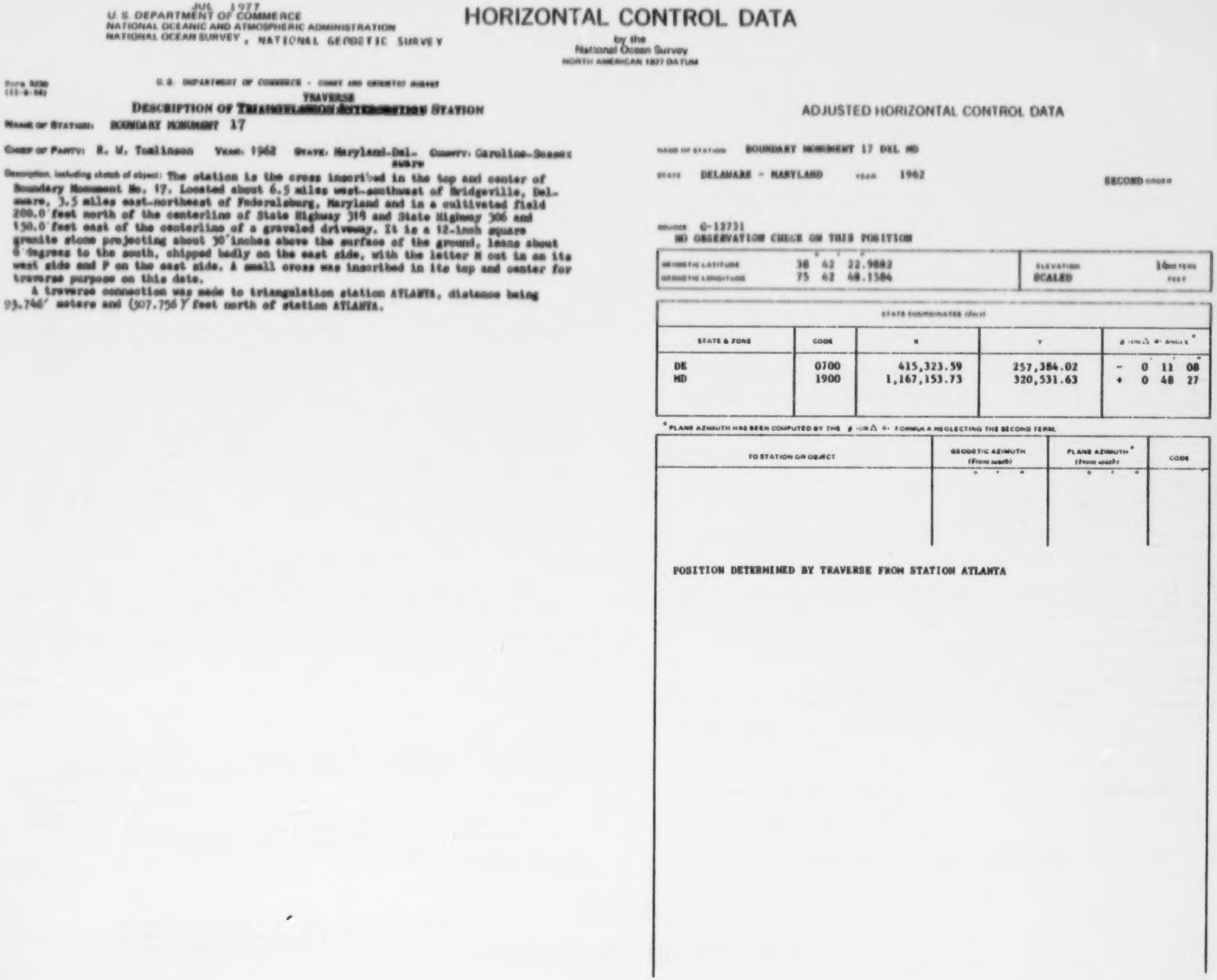
	° ′ ″		
GEODETIC LATITUDE	38 41 30.7838	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 42 44.0595	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) OR ANGLE* ′ ″
DE MD	0700 1900	415,631.49 1,167,553.11	252,101.68 315,255.68	- 0 11 05 + 0 48 30

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION TANYARD



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
[illegible]

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 17

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 STATE: Maryland-Delaware COUNTY: Caroline-Sussex

Description, including sketch of object: The station is the cross inscribed in the top and center of Boundary Monument No. 17. Located about 6.5 miles west-southwest of Bridgeville, Delaware, 3.5 miles east-northeast of Federalsburg, Maryland and in a cultivated field 200.0 feet north of the centerline of State Highway 319 and State Highway 306 and 150.0 feet east of the centerline of a graveled driveway. It is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, leans about 6 degrees to the south, chipped badly on the east side, with the letter M cut in on its west side and P on the east side. A small cross was inscribed in its top and center for traverse purpose on this date.

A traverse connection was made to triangulation station ATLANTA, distance being 93.746 meters and (307.756) feet north of station ATLANTA.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 17 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 42 22.9882	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 42 48.1584	SCALED	FEET

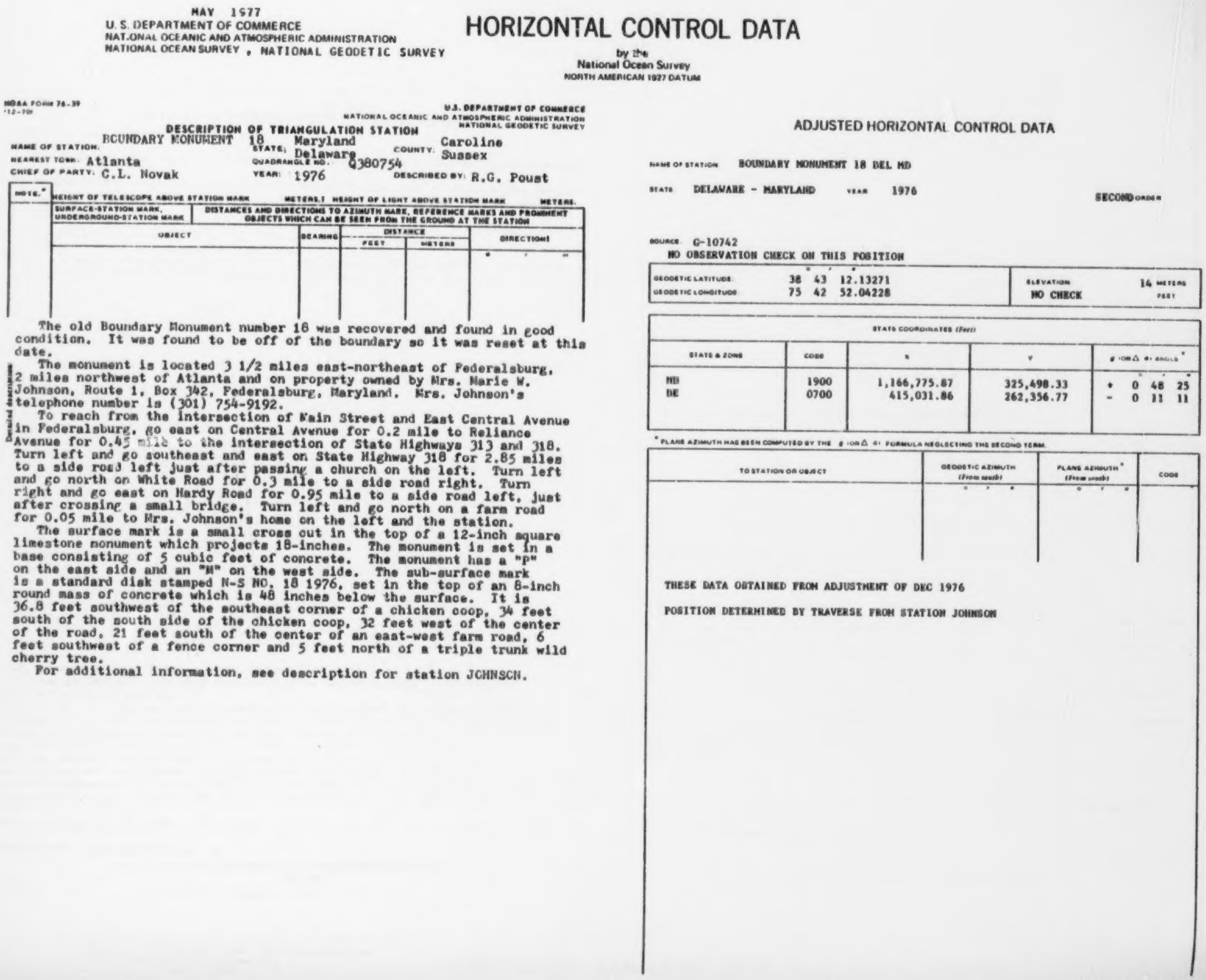
STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) or ANGLE* ° ′ ″
DE	0700	415,323.59	257,384.02	- 0 11 08
MD	1900	1,167,153.73	320,531.63	+ 0 48 27

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION ATLANTA



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 18
STATE: Maryland Delaware
COUNTY: Caroline Sussex
NEAREST TOWN: Atlanta
QUADRANGLE NO. Q380754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTION†
			FEET	METERS	° ′ ″

The old Boundary Monument number 18 was recovered and found in good condition. It was found to be off of the boundary so it was reset at this date.

The monument is located 3 1/2 miles east-northeast of Federalsburg, 2 miles northwest of Atlanta and on property owned by Mrs. Marie W. Johnson, Route 1, Box 342, Federalsburg, Maryland. Mrs. Johnson's telephone number is (301) 754-9192.

To reach from the intersection of Main Street and East Central Avenue in Federalsburg, go east on Central Avenue for 0.2 mile to Reliance Avenue for 0.45 mile to the intersection of State Highways 313 and 318. Turn left and go southeast and east on State Highway 318 for 2.85 miles to a side road left just after passing a church on the left. Turn left and go north on White Road for 0.3 mile to a side road right. Turn right and go east on Hardy Road for 0.95 mile to a side road left, just after crossing a small bridge. Turn left and go north on a farm road for 0.05 mile to Mrs. Johnson's home on the left and the station.

The surface mark is a small cross cut in the top of a 12-inch square limestone monument which projects 18-inches. The monument is set in a base consisting of 5 cubic feet of concrete. The monument has a "P" on the east side and an "M" on the west side. The sub-surface mark is a standard disk stamped M-S NO. 18 1976, set in the top of an 8-inch round mass of concrete which is 48 inches below the surface. It is 36.8 feet southwest of the southeast corner of a chicken coop, 34 feet south of the south side of the chicken coop, 32 feet west of the center of the road, 21 feet south of the center of an east-west farm road, 6 feet southwest of a fence corner and 5 feet north of a triple trunk wild cherry tree.

For additional information, see description for station JOHNSON.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 18 DEL MD
STATE DELAWARE - MARYLAND YEAR 1976 SECOND ORDER

SOURCE G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 43 12.13271	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 42 52.04228	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,166,775.87	325,498.33	+ 0 48 25
DE	0700	415,031.86	262,356.77	- 0 11 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION JOHNSON

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-3-60)

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 19

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1962 **STATE:** Maryland-Delaware **COUNTY:** Caroline-Sussex

Description, including sketch of object: The station is the center of a small cross inscribed in the top and center of the Boundary Monument No. 19. Located about 6.0 miles west of Briggsville, Delaware, 4.0 miles northeast of Federalsburg, in a dense woods land and on property owned by Mr. Gilbert Kindig. The monument is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, with the letter M cut in on the west side and the letter P on the east side. The monument was recovered in good condition, sturdy and plumb. It is 38.7′feet east-northeast of a standard metal witness post and marker, 13.0′feet south of the approximate centerline of a track woods road and 9.6′feet southeast of a 4-trunked oak tree.

A traverse connection was made to triangulation station KINDIG, distance being 12.995′meters and(42.634)feet east of station KINDIG.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 19 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND-ORDER

SOURCE: C-12731
NO OBSERVATION CHECK ON THIS POSITION

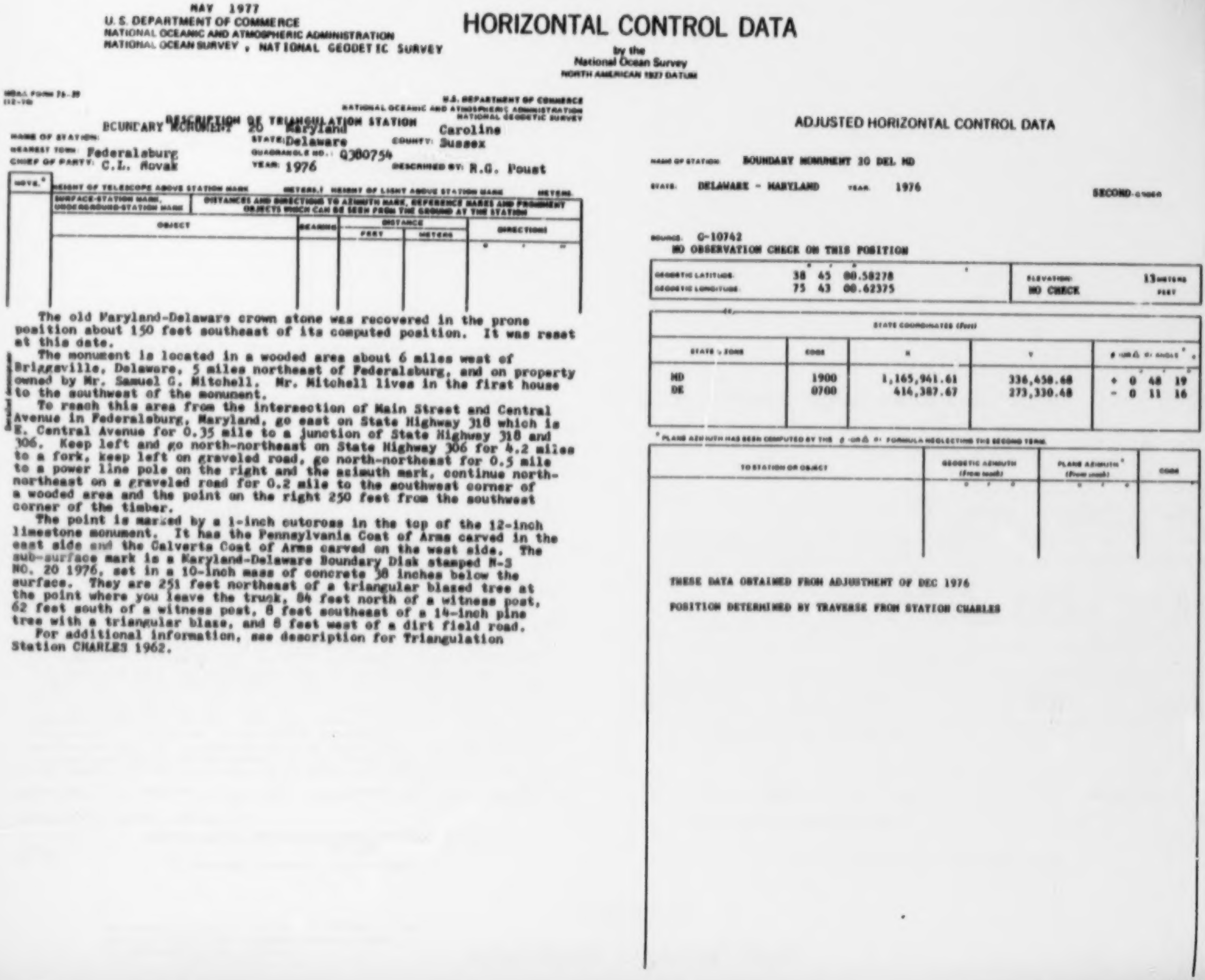
GEODETIC LATITUDE	38° 44′ 07″.4207	ELEVATION	13 METERS
GEODETIC LONGITUDE	75 42 56.4135	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	414,703.67	267,951.17	- 0 11 14
MD	1900	1,166,350.78	331,085.93	+ 0 48 22

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION KINDIG



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 20
STATE: Maryland / Delaware
COUNTY: Caroline / Sussex
NEAREST TOWN: Federalsburg
QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTIONS
			FEET	METERS	° ′ ″

The old Maryland-Delaware crown stone was recovered in the prone position about 150 feet southeast of its computed position. It was reset at this date.

The monument is located in a wooded area about 6 miles west of Briggsville, Delaware, 5 miles northeast of Federalsburg, and on property owned by Mr. Samuel G. Mitchell. Mr. Mitchell lives in the first house to the southwest of the monument.

To reach this area from the intersection of Main Street and Central Avenue in Federalsburg, Maryland, go east on State Highway 318 which is E. Central Avenue for 0.35 mile to a junction of State Highway 318 and 306. Keep left and go north-northeast on State Highway 306 for 4.2 miles to a fork, keep left on graveled road, go north-northeast for 0.5 mile to a power line pole on the right and the azimuth mark, continue north-northeast on a graveled road for 0.2 mile to the southwest corner of a wooded area and the point on the right 250 feet from the southwest corner of the timber.

The point is marked by a 1-inch cutcross in the top of the 12-inch limestone monument. It has the Pennsylvania Coat of Arms carved in the east side and the Calverts Coat of Arms carved on the west side. The sub-surface mark is a Maryland-Delaware Boundary Disk stamped M-S NO. 20 1976, set in a 10-inch mass of concrete 38 inches below the surface. They are 251 feet northeast of a triangular blazed tree at the point where you leave the truck, 84 feet north of a witness post, 62 feet south of a witness post, 8 feet southeast of a 14-inch pine tree with a triangular blaze, and 8 feet west of a dirt field road.

For additional information, see description for Triangulation Station CHARLES 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 20 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND-ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 45 00.58278	ELEVATION:	13 METERS
GEODETIC LONGITUDE:	75 43 00.62375	NO CHECK	FEET

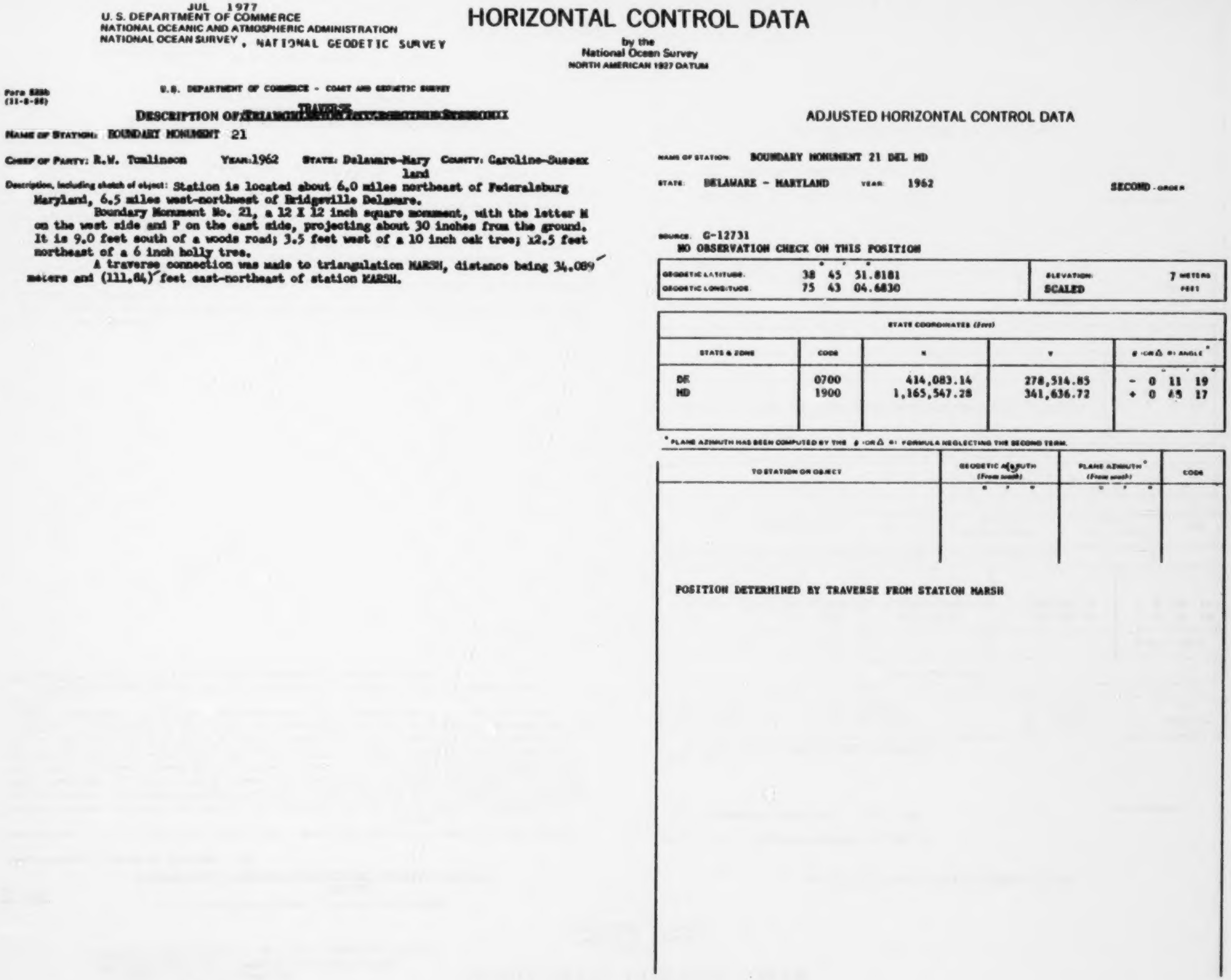
STATE COORDINATES (Feet)				
STATE – ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,165,961.61	336,450.68	+ 0 48 19
DE	0700	414,387.67	273,330.48	- 0 11 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION CHARLES



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-56)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION [illegible]~~

NAME OF STATION: BOUNDARY MONUMENT 21

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Delaware-Maryland **COUNTY:** Caroline-Sussex

Description, including sketch of object: Station is located about 6.0 miles northeast of Federalsburg Maryland, 6.5 miles west-northwest of Bridgeville Delaware.

Boundary Monument No. 21, a 12 X 12 inch square monument, with the letter M on the west side and P on the east side, projecting about 30 inches from the ground. It is 9.0 feet south of a woods road; 3.5 feet west of a 10 inch oak tree; 12.5 feet northeast of a 6 inch holly tree.

A traverse connection was made to triangulation MARSH, distance being 34.089 meters and (111.84) feet east-northeast of station MARSH.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 21 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND - ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE	38 45 51.8181	ELEVATION:	7 METERS
GEODETIC LONGITUDE	75 43 04.6830	SCALED	FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ' "
DE	0700	414,083.14	278,314.85	- 0 11 19
MD	1900	1,165,547.28	341,636.72	+ 0 45 17

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION MARSH

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-53)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: Boundary Monument 22

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 STATE: Maryland-Delaware COUNTY: Caroline-Sussex

Description, including sketch of object: The station is the center of the small cross inscribed in the top and center of Boundary Monument No. 22. Located about 6.5 miles northeast of Federalsburg, Maryland, 6.5 miles west-northwest of Bridgeville, Delaware, in a dense woods and brush and on property owned by Miss Sadie DeVore. It is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, with the letter M cut in on its west side and P on the east side, a small cross was inscribed in the top and center of the monument on this date for traverse purpose. In general the monument is in good condition. It is 119.7′ feet southwest of a standard metal witness post and marker.

A traverse connection was made to triangulation station DEVORE, distance being (115.09′ feet) and 35.081′ meters east-southeast of station DEVORE.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 22 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 46 43.9497	ELEVATION:	12 METERS
GEODETIC LONGITUDE:	75 43 08.8044	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	413,774.12	283,789.92	- 0 11 22
MD	1900	1,165,146.88	346,905.36	+ 0 48 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION DEVORE

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [redacted] STATION

NAME OF STATION: BOUNDARY MONUMENT 23

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 STATE: Delaware
Maryland COUNTY: Sussex
Caroline

Description, including sketch of object: Boundary Monument No 23 is a 12 X 12 inch limestone monument marked with the letters M and P and is considered in good condition except it has been broken off about 3 inches below the ground surface. The top portion of the monument is in a prone position at the base of the monument. It is located 72.0′ feet east of a 12-inch triangular blazed oak tree, 73.54′ feet and 22.416′ meters east-northeast of triangulation station WADE 1962, 73.5′ feet east of a standard metal witness post and marker, 0.5 mile south of the Fountainville, Interstate Lookout Tower, 7.0 miles northeast of Bridgeville, Delaware, 8 1/2 miles southeast of Denton, Maryland and on property owned by Mr. E. Harper of Bridgeville, Delaware.

Point observed and measured to was a cross mark scribed in the approximate center of the base of the monument.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 23 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: C-12731
NO OBSERVATION CHECK ON THIS POSITION

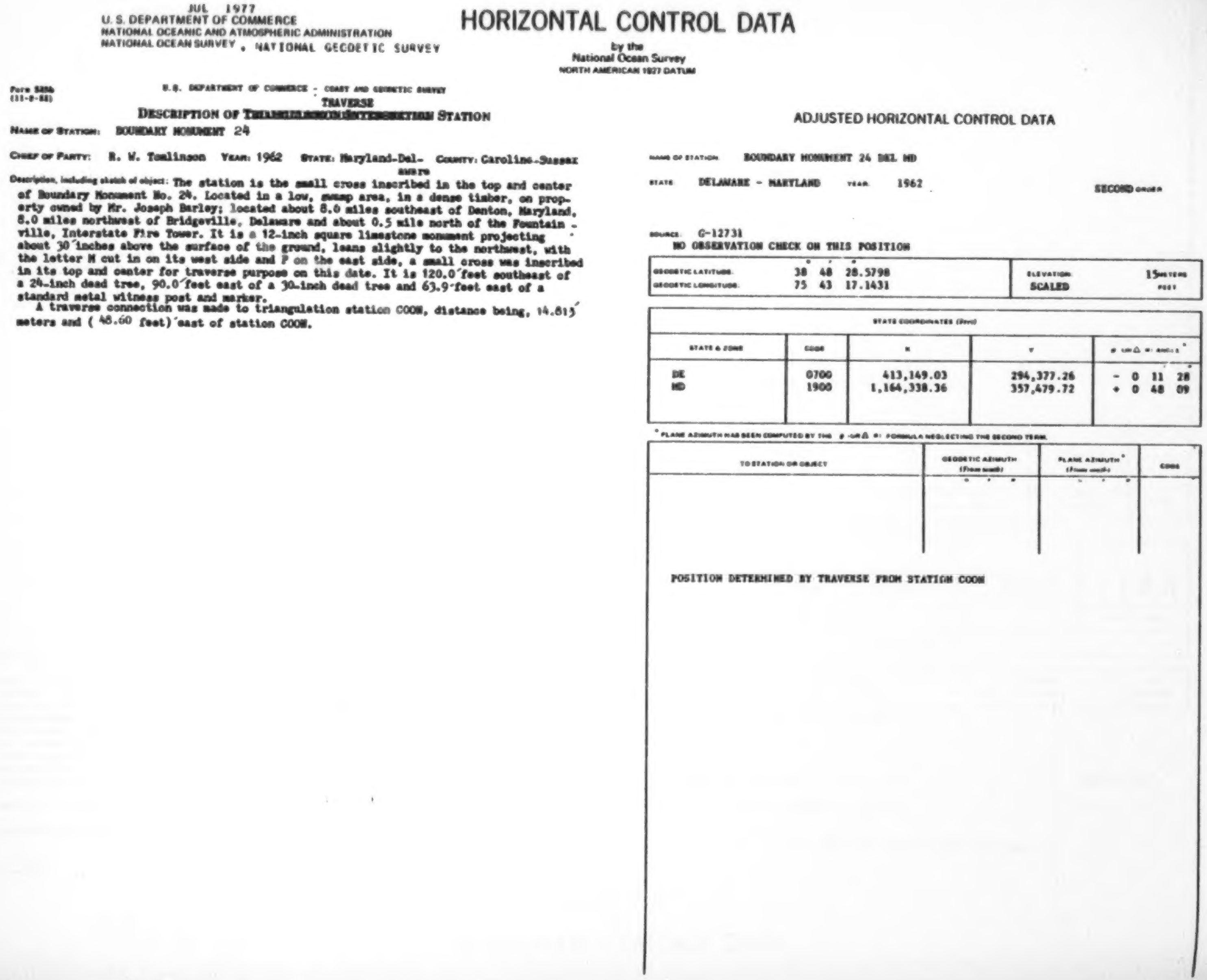
	° ′ ″		
GEODETIC LATITUDE:	38 47 36.6018	ELEVATION:	12 METERS
GEODETIC LONGITUDE:	75 43 12.9887	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE* ° ′ ″
DE	0700	413,460.44	289,117.68	- 0 11 25
MD	1900	1,164,740.89	352,226.61	+ 0 48 12

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WADE



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-88)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION-INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 24

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1962 **STATE:** Maryland-Delaware **COUNTY:** Caroline-Sussex

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 24. Located in a low, swamp area, in a dense timber, on property owned by Mr. Joseph Barley; located about 8.0 miles southeast of Denton, Maryland, 8.0 miles northwest of Bridgeville, Delaware and about 0.5 mile north of the Fountainville, Interstate Fire Tower. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground, leans slightly to the northwest, with the letter M cut in on its west side and F on the east side, a small cross was inscribed in its top and center for traverse purpose on this date. It is 120.0 feet southeast of a 24-inch dead tree, 90.0 feet east of a 30-inch dead tree and 63.9 feet east of a standard metal witness post and marker.

A traverse connection was made to triangulation station COON, distance being, 14.815 meters and (48.60 feet) east of station COON.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 24 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

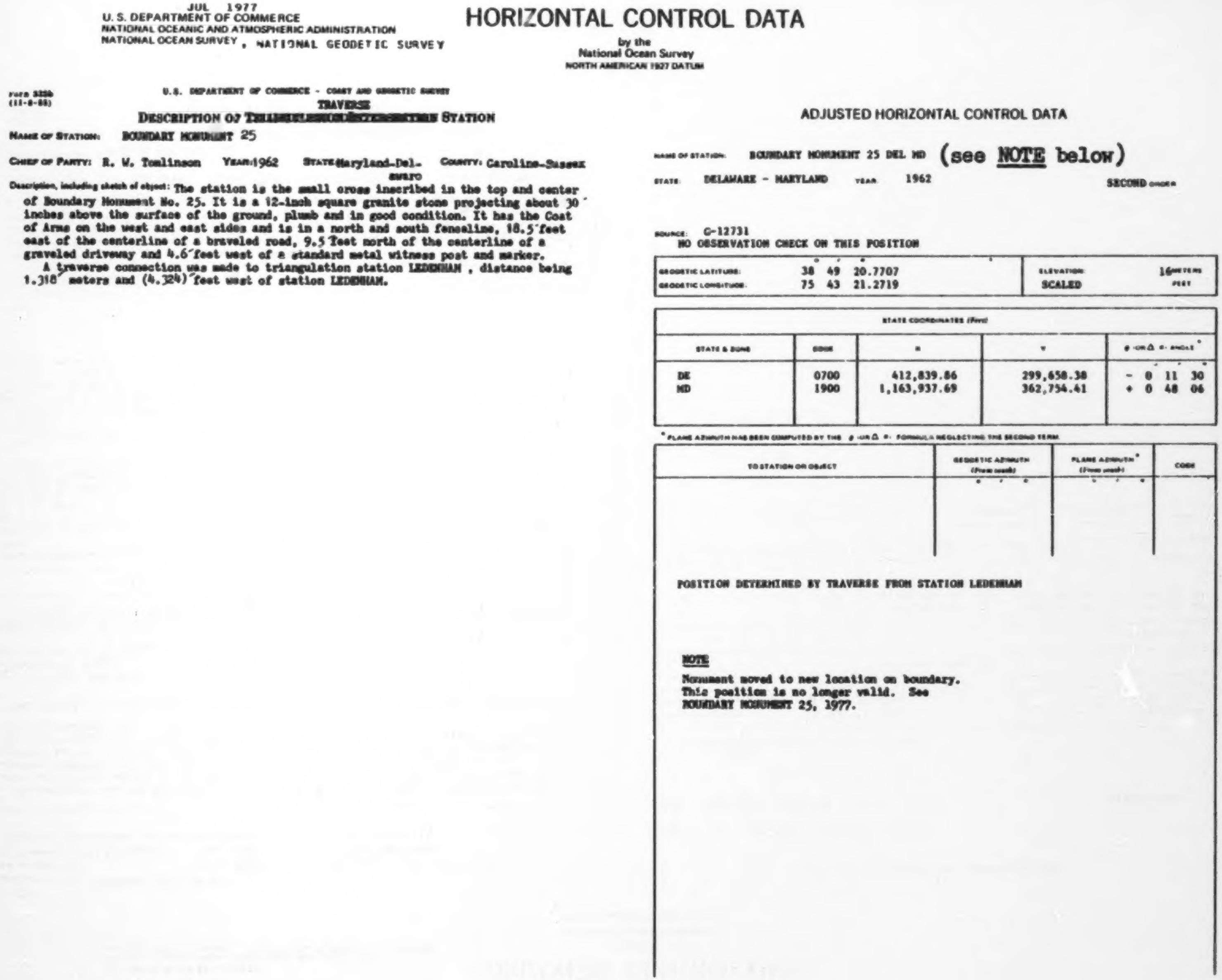
	° ′ ″		
GEODETIC LATITUDE:	38 48 28.5798	ELEVATION:	15 METERS
GEODETIC LONGITUDE:	75 43 17.1431	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ or Δα: ANGLE*
DE	0700	413,149.03	294,377.26	- 0 11 28
MD	1900	1,164,338.36	357,479.72	+ 0 48 09

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ or Δα: FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION COON



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 25

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 STATE: Maryland-Delaware COUNTY: Caroline-Sussex

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 25. It is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, plumb and in good condition. It has the Coat of Arms on the west and east sides and is in a north and south fenceline, 18.5 feet east of the centerline of a traveled road, 9.5 feet north of the centerline of a graveled driveway and 4.6 feet west of a standard metal witness post and marker.

A traverse connection was made to triangulation station LEDENHAM , distance being 1.318 meters and (4.324) feet west of station LEDENHAM.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 25 DEL MD (see NOTE below)

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 49 20.7707	ELEVATION:	16 METERS
GEODETIC LONGITUDE:	75 43 21.2719	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ or Δα ANGLE* ° ′ ″
DE	0700	412,839.86	299,650.38	− 0 11 30
MD	1900	1,163,937.69	362,754.41	+ 0 48 06

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ or Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LEDENHAM

NOTE

Monument moved to new location on boundary.
This position is no longer valid. See
BOUNDARY MONUMENT 25, 1977.

JUL 1977

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

NAME OF STATION: BOUNDARY MONUMENT 25
ESTABLISHED BY: YEAR: 1962 STATE: Md.-Del. BENCH MARK(S) ALSO ☐
RECOVERED BY: G. L. Novak YEAR: 1977 COUNTY: Caroline-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile south of Hickman

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The monument was recovered and found in good condition in what appeared to be the same location as stated in the 1962 description. After the angles and distances at station LEDENHAM were made, it was found that the monument was about 45 degrees further to the north and 0.591 meters further away from the station than stated in the 1962 description. A new traverse connection was then made from triangulation station LEDENHAM 1962.

For additional information, see recovery description below for station LEDENHAM 1962.

NAME OF STATION: LEDENHAM
ESTABLISHED BY: R.W.T. YEAR: 1962 STATE: Delaware
RECOVERED BY:* G. L. Novak YEAR: 1977 COUNTY: Sussex

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION °	′	″
Azimuth Mark Reset 1962	N	(0.7 mile)		0	00	00.0
RM 1	SE	29.04	8.851	131	25	02
Boundary Monument 25	NW	6.253	1.906	316	32	26.8
RM 2	NNW	38.04	11.595	355	36	09.7
RM 1 to RM 2		62.24	18.970			
Boundary Monument 25 to RM 2		33.40	10.182			
Boundary Monument 25 to RM 1		35.26	10.750			
No other objects V.G.						

The station and all marks were recovered and found in good condition as previously described.

After a check was made, it was found that an underground telephone cable had been put in where the old monument was located. Computations showed that the monument had been reset on the boundary 1.279 meters north of its original position.

A new witness post was set 3 feet northwest of the station mark and 3 feet southwest of the boundary monument.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 25 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1977 SECOND ORDER

SOURCE: G-11084
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE:	38	49	20.81214	ELEVATION:	17.1 METERS
GEODETIC LONGITUDE:	75	43	21.27535		52 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	412,839.60	299,662.58	- 0 11 30
MD	1900	1,163,937.36	362,758.59	+ 0 48 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE α (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

See Station HICKMAN

Form 526b
(11-8-60)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [illegible]STATION

NAME OF STATION: BOUNDARY MONUMENT 26

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Delaware
Maryland **COUNTY:** Kent
Caroline

Description, including sketch of object: The Boundary Monument No. 26 is located in the small village of Hickman, Delaware-Maryland, 19.0 feet west of the approximate center of a macadam road, 28.6 feet southeast of a powerline pole # 76-6A, 71.0 feet southeast of the southeast corner of the Hickman, General Store, 7.0 miles southeast of Denton, Maryland, 8.0 miles northwest of Greenwood and on State property.

A traverse measurement was made to triangultion station HICKMAN 1962, distance being 40.565 meters 133.087 feet.

Point observed and measured to was a small cross mark scribed on the apex of the monument.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 26 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

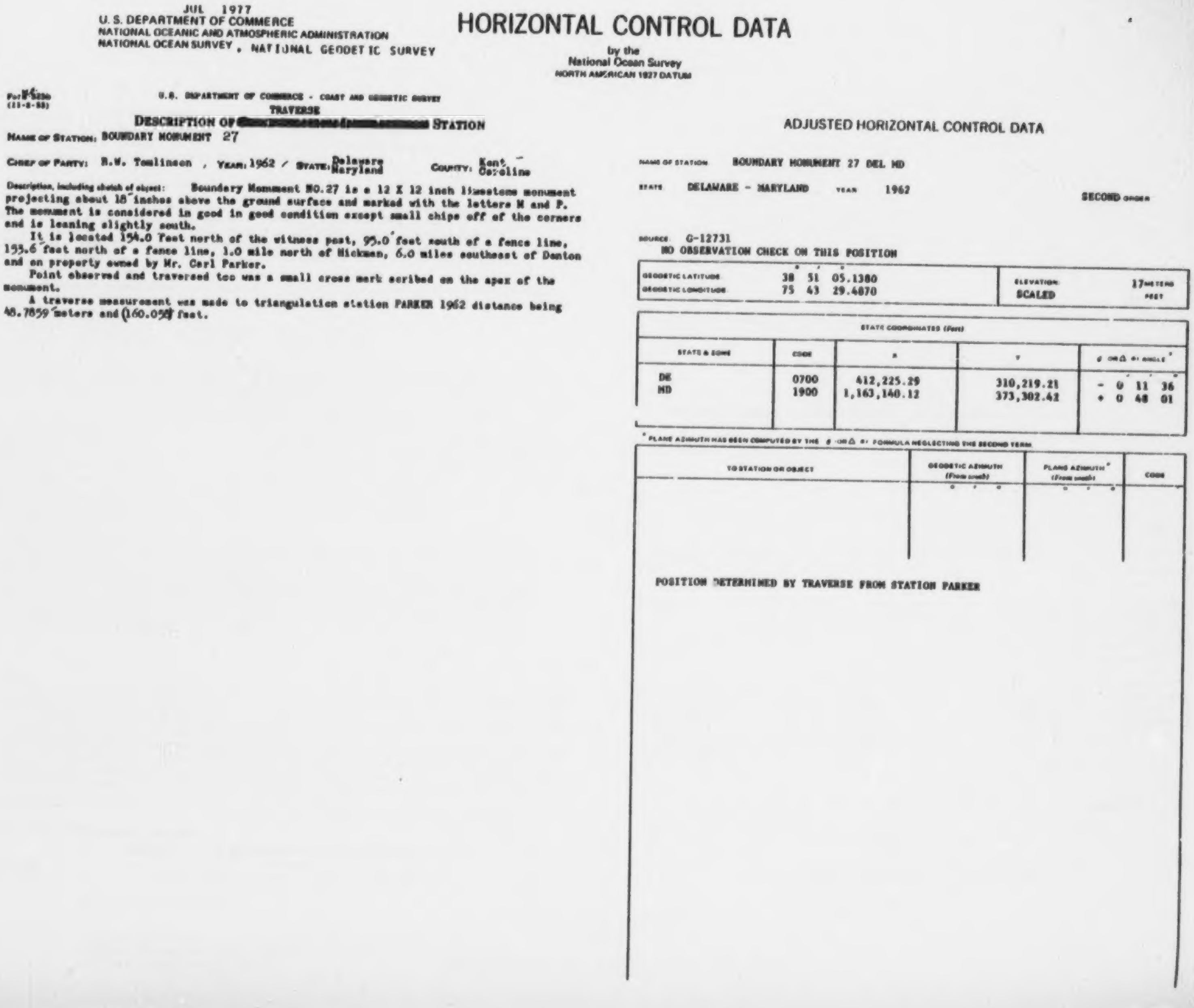
	° ′ ″		
GEODETIC LATITUDE:	38 30 13.1783	ELEVATION:	16 METERS
GEODETIC LONGITUDE:	75 43 25.3693	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE *
				° ′ ″
DE	0700	412,533.39	304,961.44	- 0 11 33
MD	1900	1,163,539.33	368,051.07	+ 0 48 04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH * (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION HICKMAN



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
(11-2-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [redacted] STATION

NAME OF STATION: BOUNDARY MONUMENT 27

CHIEF OF PARTY: R.W. Tomlinson , **YEAR:** 1962 / **STATE:** Delaware Maryland **COUNTY:** Kent - Caroline

Description, including sketch of object: Boundary Monument NO.27 is a 12 X 12 inch limestone monument projecting about 18" inches above the ground surface and marked with the letters M and P. The monument is considered in good in good condition except small chips off of the corners and is leaning slightly south.

It is located 154.0 feet north of the witness post, 95.0' feet south of a fence line, 155.6' feet north of a fence line, 1.0 mile north of Hickman, 6.0 miles southeast of Denton and on property owned by Mr. Carl Parker.

Point observed and traversed too was a small cross mark scribed on the apex of the monument.

A traverse measurement was made to triangulation station PARKER 1962 distance being 48.7859 meters and (160.058) feet.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 27 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 51 05.1380	ELEVATION	17 METERS
GEODETIC LONGITUDE	75 43 29.4870	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR $\Delta\alpha_1$ ANGLE* ° ′ ″
DE	0700	412,225.29	310,219.21	- 0 11 36
MD	1900	1,163,140.12	373,302.42	+ 0 48 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR $\Delta\alpha_1$ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PARKER

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 28

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Caroline-Kent

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 28. Located about 219.0 feet east of a timberline, in a small field planted to small pine trees, about 5.5 miles east-southeast of Denton, Maryland, 2.0 miles south of the small settlement of Burrsville, 2.0 miles north of the small settlement of Hickman and on property owned by the Gladfelter Pulpwood Company of Fredericksburg, Virginia. It is a 12-inch square lime stone monument projecting about 30 inches above the surface of the ground, plumb and in general good condition, with the letter M cut in on its west side and P on the east side. A small cross was inscribed in its top and center for traverse purpose on this date.

A traverse connection was made to triangulation station PULP, distance being 66.799 meters and (219.156 feet) northeast of station PULP.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 28 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

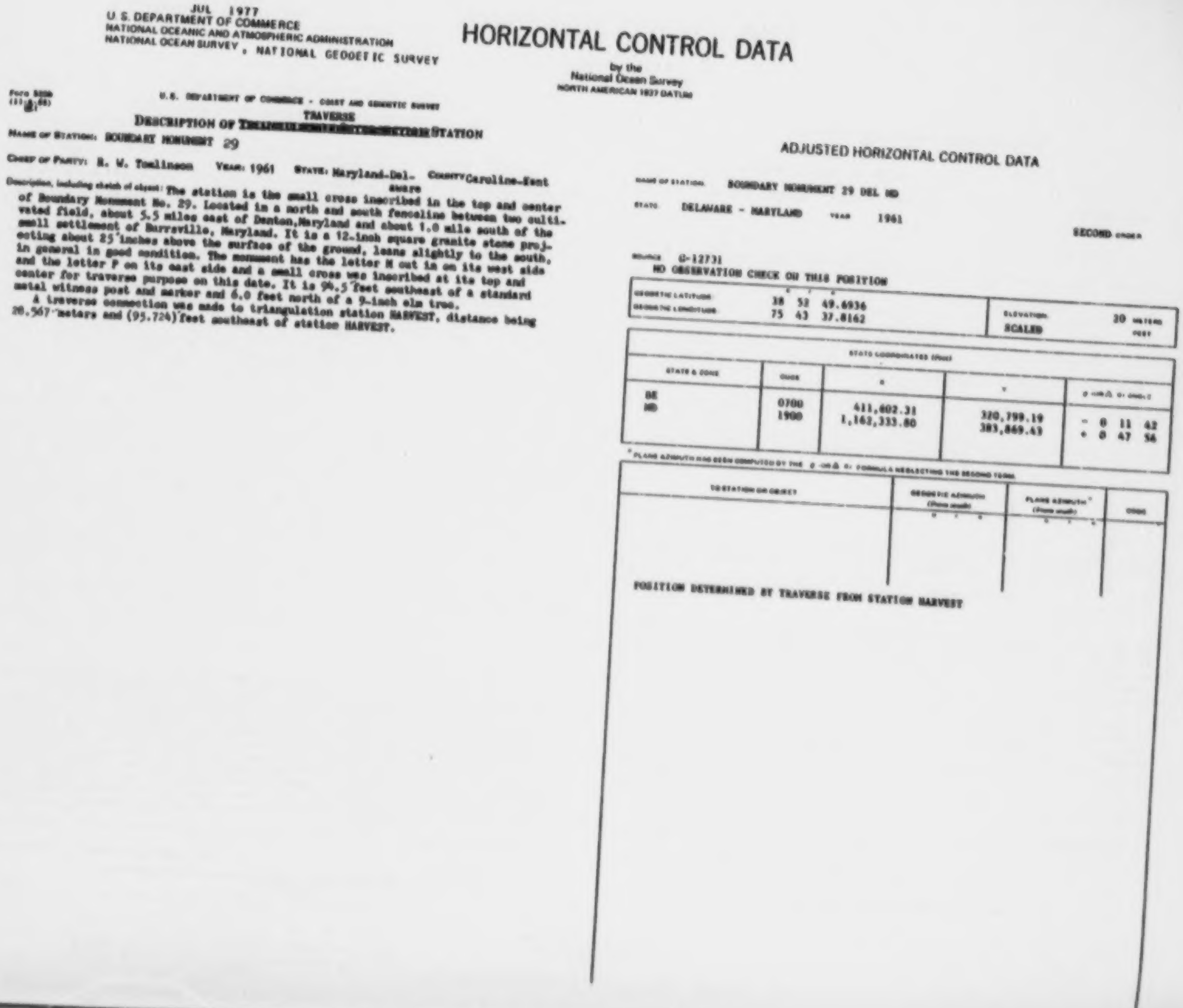
	° ′ ″		
GEODETIC LATITUDE	38 51 57.3364	ELEVATION	18 METERS
GEODETIC LONGITUDE	75 43 33.6184	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ or Δα ANGLE* ° ′ ″
DE	0700	411,916.33	315,501.15	- 0 11 39
MD	1900	1,162,739.63	378,577.92	+ 0 47 59

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PULP



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-65)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 29

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Caroline-Kent

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 29. Located in a north and south fenceline between two cultivated field, about 5.5 miles east of Denton, Maryland and about 1.0 mile south of the small settlement of Burrsville, Maryland. It is a 12-inch square granite stone projecting about 25 inches above the surface of the ground, leans slightly to the south, in general in good condition. The monument has the letter M cut in on its west side and the letter P on its east side and a small cross was inscribed at its top and center for traverse purpose on this date. It is 96.5 feet southeast of a standard metal witness post and marker and 6.0 feet north of a 9-inch elm tree.

A traverse connection was made to triangulation station HARVEST, distance being 28.567 meters and (95.724) feet southeast of station HARVEST.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 29 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961

SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	'	"		
GEODETIC LATITUDE	38	52	49.6936	ELEVATION	20 METERS
GEODETIC LONGITUDE	75	43	37.8162	SCALED	FEET

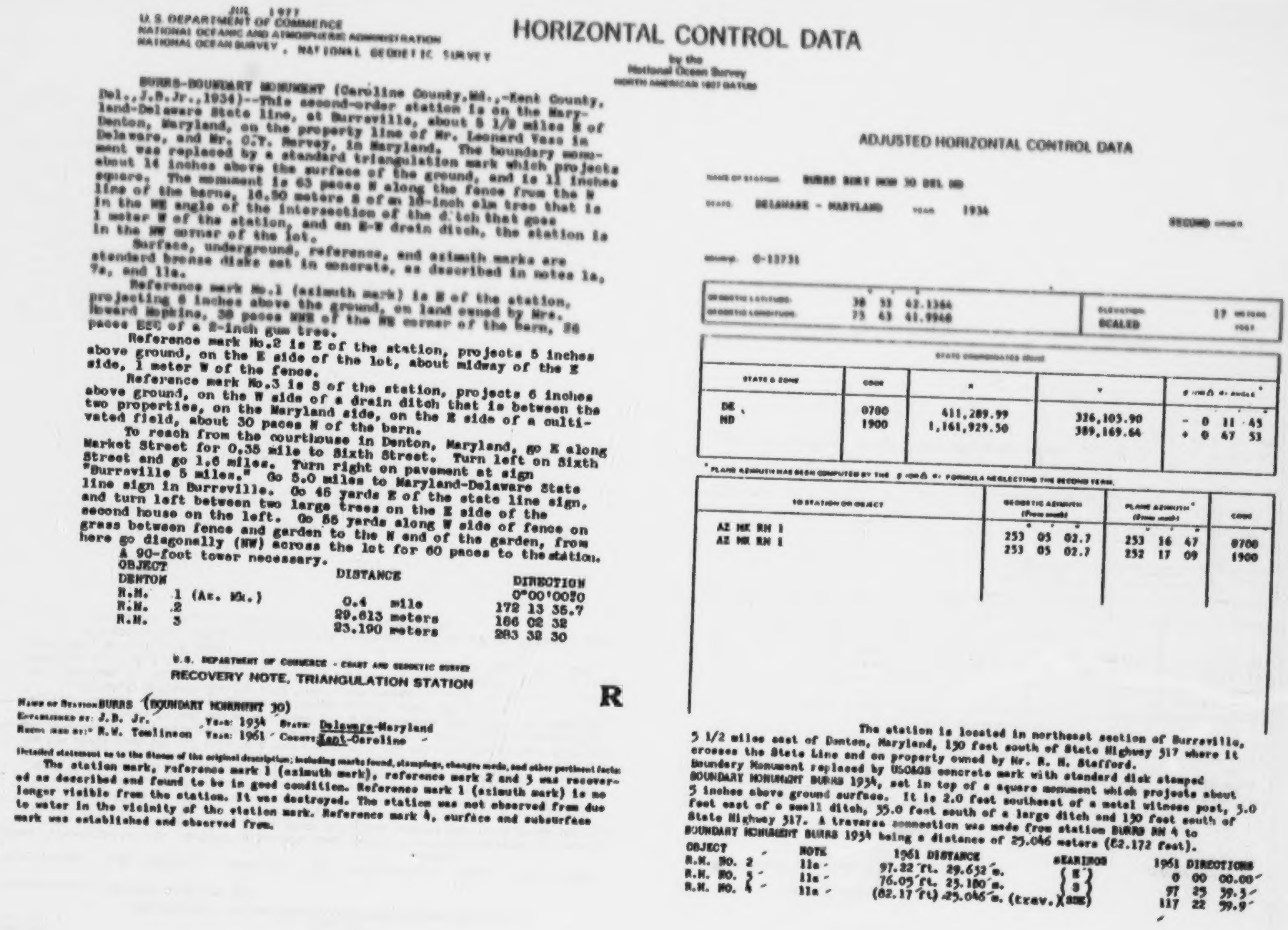
STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE
DE MD	0700 1900	411,602.31 1,162,333.80	320,799.19 383,869.43	- 0 11 42 + 0 47 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION HARVEST



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

BURRS-BOUNDARY MONUMENT (Caroline County,Md.,-Kent County,
Del.,J.B.Jr.,1934)--This second-order station is on the Mary-
land-Delaware State line, at Burrsville, about 5 1/2 miles E of
Denton, Maryland, on the property line of Mr. Leonard Vass in
Delaware, and Mr. O.T. Harvey, in Maryland. The boundary monu-
ment was replaced by a standard triangulation mark which projects
about 14 inches above the surface of the ground, and is 11 inches
square. The monument is 63 paces N along the fence from the N
line of the barns, 16.50 meters S of an 18-inch elm tree that is
in the NE angle of the intersection of the ditch that goes
1 meter W of the station, and an E-W drain ditch, the station is
in the NW corner of the lot.

Surface, underground, reference, and azimuth marks are
standard bronze disks set in concrete, as described in notes 1a,
7a, and 11a.

Reference mark No.1 (azimuth mark) is N of the station,
projecting 6 inches above the ground, on land owned by Mrs.
Howard Hopkins, 38 paces NNE of the NE corner of the barn, 26
paces ESE of a 2-inch gum tree.

Reference mark No.2 is E of the station, projects 5 inches
above ground, on the E side of the lot, about midway of the E
side, 1 meter W of the fence.

Reference mark No.3 is S of the station, projects 6 inches
above ground, on the W side of a drain ditch that is between the
two properties, on the Maryland side, on the E side of a culti-
vated field, about 30 paces N of the barn.

To reach from the courthouse in Denton, Maryland, go E along
Market Street for 0.35 mile to Sixth Street. Turn left on Sixth
Street and go 1.6 miles. Turn right on pavement at sign
"Burrsville 5 miles." Go 5.0 miles to Maryland-Delaware State
line sign in Burrsville. Go 45 yards E of the state line sign,
and turn left between two large trees on the E side of the
second house on the left. Go 55 yards along W side of fence on
grass between fence and garden to the N end of the garden, from
here go diagonally (NW) across the lot for 60 paces to the station.

A 90-foot tower necessary.

OBJECT		DISTANCE	DIRECTION
DENTON			0°00'00"0
R.M.	1 (Az. Mk.)	0.4 mile	172 13 35.7
R.M.	2	29.613 meters	186 02 32
R.M.	3	23.190 meters	283 32 30

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION BURRS (BOUNDARY MONUMENT 30)
ESTABLISHED BY: J.B. Jr. YEAR: 1934 STATE: Delaware-Maryland
RECOVERED BY: R.W. Tomlinson YEAR: 1961 COUNTY: Kent-Caroline

Detailed statement as to the Status of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station mark, reference mark 1 (azimuth mark), reference mark 2 and 3 was recover-
ed as described and found to be in good condition. Reference mark 1 (azimuth mark) is no
longer visible from the station. It was destroyed. The station was not observed from due
to water in the vicinity of the station mark. Reference mark 4, surface and subsurface
mark was established and observed from.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BURRS BDRY MON 30 DEL MD
STATE DELAWARE - MARYLAND YEAR 1934
SECOND ORDER
SOURCE G-12731

GEODETIC LATITUDE	38 53 42.1364	ELEVATION	17 METERS
GEODETIC LONGITUDE	75 43 41.9948	SCALED	FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) or ANGLE*
DE	0700	411,289.99	326,105.90	- 0 11 45
MD	1900	1,161,929.50	389,169.64	+ 0 47 53

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) or FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK RM 1	253 05 02.7	253 16 47	0700
AZ MK RM 1	253 05 02.7	252 17 09	1900

The station is located in northeast section of Burrsville,
5 1/2 miles east of Denton, Maryland, 150 feet south of State Highway 317 where it
crosses the State Line and on property owned by Mr. R. H. Stafford.
Boundary Monument replaced by USC&GS concrete mark with standard disk stamped
BOUNDARY MONUMENT BURRS 1934, set in top of a square monument which projects about
5 inches above ground surface. It is 2.0 feet southeast of a metal witness post, 3.0
feet east of a small ditch, 55.0 feet south of a large ditch and 150 feet south of
State Highway 317. A traverse connection was made from station BURRS RM 4 to
BOUNDARY MONUMENT BURRS 1934 being a distance of 25.046 meters (82.172 feet).

OBJECT	NOTE	1961 DISTANCE	BEARINGS	1961 DIRECTIONS
R.M. NO. 2	11a	97.22 ft. 29.632 m.	E	0 00 00.00
R.M. NO. 3	11a	76.05 ft. 23.180 m.	S	97 25 39.3
R.M. NO. 4	11a	(82.17 ft) 25.046 m. (trav.)	SSE	117 22 59.9

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~[illegible]~~

NAME OF STATION: BOUNDARY MONUMENT 31

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Maryland-Delaware **COUNTY:** Caroline-Kent

Description, including sketch of object: Station is located about 1.0 mile north of Burrsville, located on the Maryland-Delaware State line, about 5.5 miles east-northeast of Denton Maryland. On the property owned by Mr. Smith and farmed by Mr. Larimore.

To reach the station from the general store in Burrsville, go north for 0.05 mile to a fork, keep the right fork and continue northerly for 0.25 mile to a side road right, turn right, go northeasterly on the macadam road for 0.7 mile to a side road right, continue north for 0.15 mile to a field road on the left, turn left, west on the field road for 0.2 mile to a fence corner at the end of a field, here turn right and go north for 0.1 mile to corner between two fields, turn left, go west across the field for 0.2 mile to the end of the field and a north-south fence line, go south for 0.1 mile to the southeast corner of the large area of woods and station.

Boundary Monument No. 31, a 12 inch square monument, with the letter D on the east side and the letter P on the west side, projecting about 30 inches from the ground surface. It is 30.5 feet north of a 34 inch oak tree with triangle blaze; 23.5 feet south of a 10 inch pine tree.

A traverse connection was made to triangulation station KORNER, distance being 8.381 meters and (27.49) feet northwest of station KORNER.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 31 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

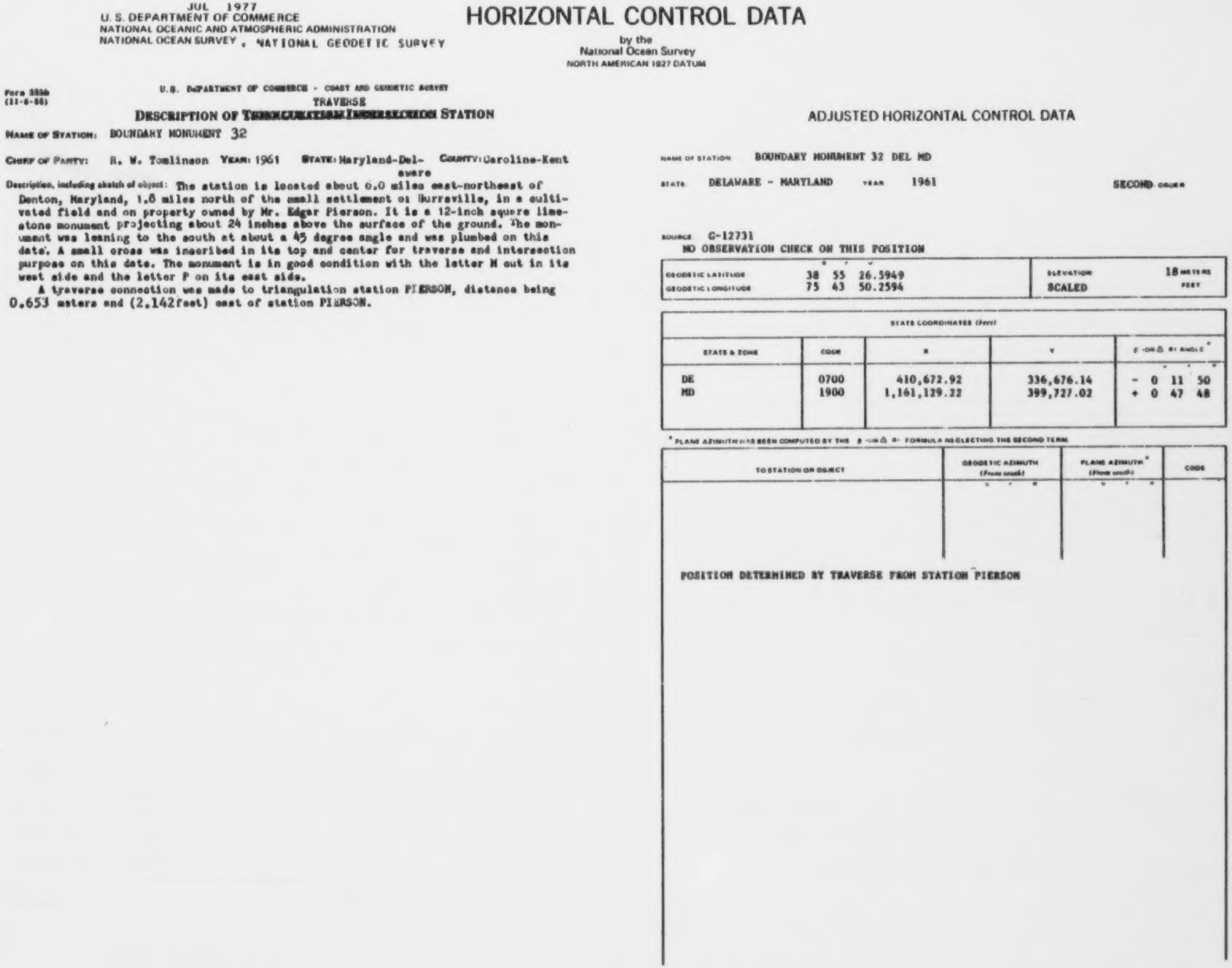
	° ′ ″		
GEODETIC LATITUDE	38 54 34.2786	ELEVATION	19 METERS
GEODETIC LONGITUDE	75 43 46.0994	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α₁ ANGLE* ° ′ ″
DE MD	0700 1900	410,983.54 1,161,531.60	331,382.19 394,439.54	- 0 11 47 + 0 47 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α₁ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION KORNER



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 32

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Caroline-Kent

Description, including sketch of object: The station is located about 6.0 miles east-northeast of Denton, Maryland, 1.8 miles north of the small settlement of Burrsville, in a cultivated field and on property owned by Mr. Edgar Pierson. It is a 12-inch square limestone monument projecting about 24 inches above the surface of the ground. The monument was leaning to the south at about a 45 degree angle and was plumbed on this date. A small cross was inscribed in its top and center for traverse and intersection purpose on this date. The monument is in good condition with the letter M cut in its west side and the letter P on its east side.

A traverse connection was made to triangulation station PIERSON, distance being 0.653 meters and (2.142feet) east of station PIERSON.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 32 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

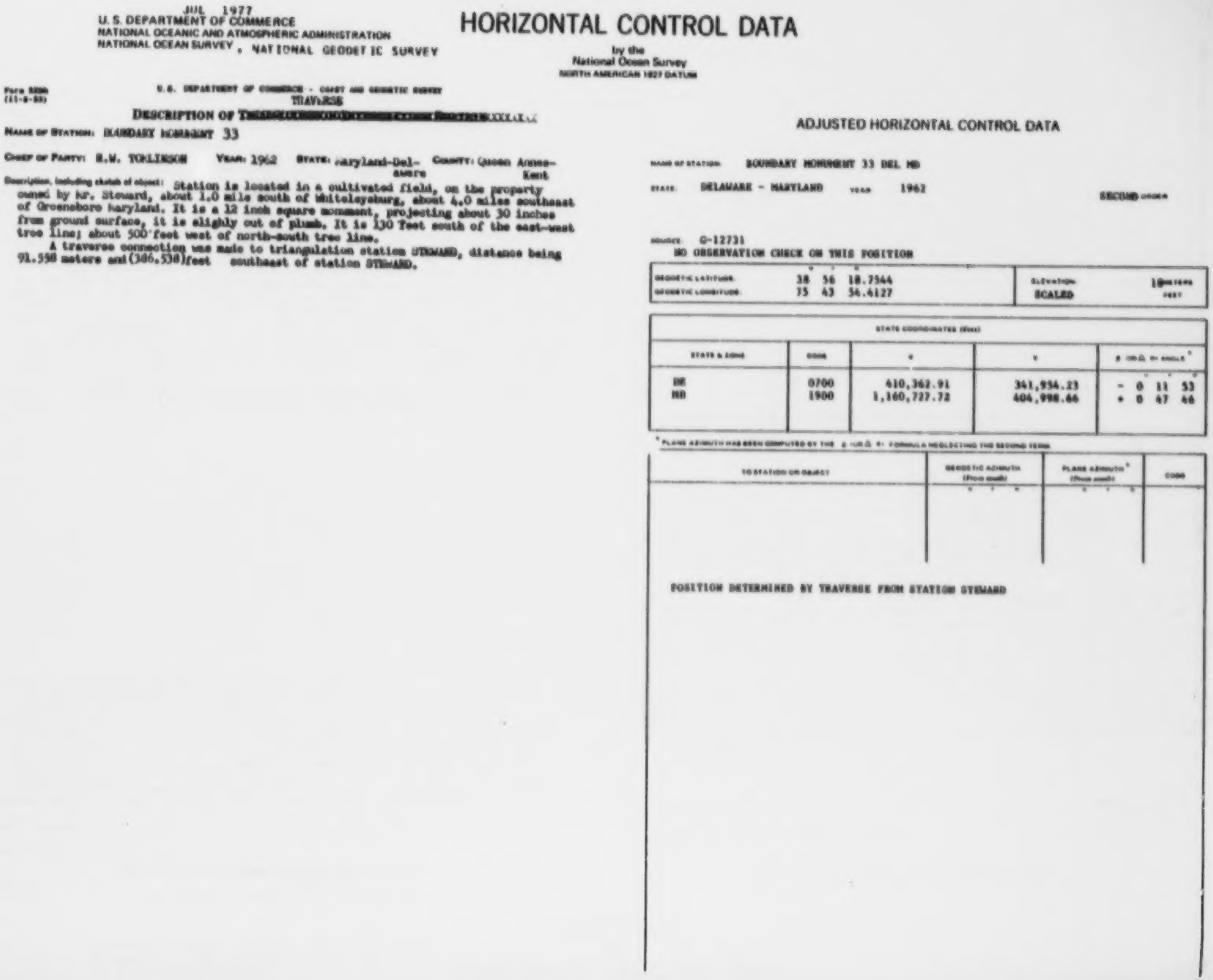
	° ′ ″		
GEODETIC LATITUDE	38 55 26.5949	ELEVATION	18 METERS
GEODETIC LONGITUDE	75 43 50.2594	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	410,672.92	336,676.14	- 0 11 50
MD	1900	1,161,129.22	399,727.02	+ 0 47 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PIERSON



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-53)

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
TRAVERSE
DESCRIPTION OF [illegible]

NAME OF STATION: BOUNDARY MONUMENT 33

CHIEF OF PARTY: R.W. TOMLINSON **YEAR:** 1962 **STATE:** Maryland-Delaware **COUNTY:** Queen Anne-Kent

Description, including sketch of object: Station is located in a cultivated field, on the property owned by Mr. Steward, about 1.0 mile south of Whiteleysburg, about 4.0 miles southeast of Greensboro Maryland. It is a 12 inch square monument, projecting about 30 inches from ground surface, it is slighly out of plumb. It is 130 feet south of the east-west tree line; about 500 feet west of north-south tree line.

A traverse connection was made to triangulation station STEWARD, distance being 91.558 meters and (306.538) feet southeast of station STEWARD.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 33 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	38	56	18.7544	ELEVATION	10 METERS
GEODETIC LONGITUDE	75	43	36.4127	SCALED	FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* °	′	″
DE	0700	410,362.91	341,954.23	- 0	11	53
MD	1900	1,160,727.72	404,998.66	+ 0	47	46

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION STEWARD

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 34
STATE: Delaware Maryland
COUNTY: Kent Caroline
NEAREST TOWN: Whiteleysburg
QUADRANGLE NO.: Q380754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

The old Maryland-Delaware Boundary Monument number 34 was recovered and found in good condition with the disk for Triangulation Station WHITELEY 1934 in the apex of the monument. The monument was found to be 8 feet to the east of the boundary line. Therefore, it was removed from its position and reset on the computed state line. The triangulation disk was removed and a modern Maryland-Delaware Boundary Disk placed in the apex of the monument.

The mark is located about 1/4 mile southeast of Whiteleysburg, 3 1/4 miles east-southeast of Greensboro and 18 1/2 miles southwest of Dover. It is on property owned by Mr. Marvin Senney and Mr. Senney lives just northeast of the station.

To reach from the intersection of Maryland State Highway 314, Delaware State Highway 12, Delaware County Road 452 and 59 in the small town of Whiteleysburg, go south-southwest on Delaware State Highway 12 for 0.1 mile to the end of truck travel in wet weather. Turn left and go east across a cultivated field for 0.2 mile to the station just west of a wooded area and in the cultivated field.

The mark is a 12-inch limestone post set in a concrete base projecting 18-inches. The Maryland-Delaware Boundary Disk which is set in a drill hole in the apex of the monument is stamped N-S NO. 34 1976. A similar disk was set in an 8-inch mass of concrete 60 inches directly below the surface disk and it is stamped the same as the surface disk. The monument is 174 feet northwest of a witness post, 171 feet north of a field ditch, 101 feet west of a wooded area, and 2 feet west of a witness post.

For additional information, see description for station WHITELEY 1934.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 34 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 57 10.88330	ELEVATION:	19 METERS
GEODETIC LONGITUDE:	75 43 58.56417	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,160,326.53	410,267.23	+ 0 47 43
DE	0700	410,053.18	347,229.25	- 0 11 56

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION WHITELEY

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525a
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~

NAME OF STATION: BOUNDARY MONUMENT 35

CHIEF OF PARTY: R.W. TOMLINSON **YEAR:** 1962 **STATE:** MARYLAND-DELAWARE **COUNTY:** CAROLINE-KENT

Description, including sketch of object: Station is located about 1.0 mile north of Whiteleysburg, about 4.0 miles east of Greensboro Maryland, in dence woods land and on the property line between property owned by Mr. Earnest Longfellow and Mr. Hughes.

To reach the station from Greensboro Maryland, go east for 0.4 mile to 3 forks at the junction of State Highways 313 and 314, keep the middle road Highway 314 and go southeasterly for 3.8 miles to a Y-fork in the west edge of Whiteleysburg, keep the left fork which becomes State Highway 12 and continue easterly for 0.95 mile to a side road left, turn left, go northerly for 0.85 mile on the macadam road to a side road left, turn left, go northwesterly on the macadam road for 0.5 mile to a gate and a farm road on the left, turn left, go south for 0.2 mile to the residence of Mr. Kellor Edwards. Continue south along the west edge of field for 0.1 mile to woods, turn left along the north edge of woods for 0.05 mile to a woods road right, turn right, on woods road for 0.2 mile and station on the right.

Boundary Monument No. 35, a 12 inch square monument with a coat of arms on the east and west side, and projects 30 inches from ground surface. It is 6.0 feet southeast of the center of woods road; 66.0 feet east of a 10 inch hickory tree with a triangle blaze.

A traverse connection was made to triangulation station LONGFELLOW, distance being 26.095 meters and (85.61) feet southeast of station LONGFELLOW.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 35 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 58 03.1548	ELEVATION:	18 METERS
GEODETIC LONGITUDE	75 44 02.7289	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	409,742.58	352,518.72	- 0 11 59
MD	1900	1,159,924.24	415,550.22	+ 0 47 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LONGFELLOW

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-60)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~[illegible]~~

NAME OF STATION: BOUNDARY MONUMENT 36

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1962 **STATE:** Delaware-Maryland **COUNTY:** Caroline-Kent

Description, including sketch of object: Station is located about 2.0 miles north of the small settlement of Whiteleysburg, and about 4.0 miles east-southeast of Greensboro Maryland. On the property owned by Mr. Hiram Short.

Boundary Monument No. 36, a 12 X 12 inch square monument, projecting 30 inches from ground surface. It is 25.0 feet north of center of field road; 30.0 feet north of a north- south fence line.

A traverse connection was made to triangulation SHORT, distance being 84.098 meters and (275.912) feet north-northeast of station SHORT.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 36 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	38 58 55.7533	ELEVATION	16 METERS
GEODETIC LONGITUDE:	75 44 06.8963	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	x	y	θ (or Δα) ANGLE* ° ′ ″
DE	0700	409,432.03	357.841.29	- 0 12 02
MD	1900	1,159,521.41	420,866.32	+ 0 47 38

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SHORT

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT /37 STATE: Delaware Maryland COUNTY: Kent Caroline
NEAREST TOWN: Whitleysburg QUADRANGLE NO.
CHIEF OF PARTY: C.L. Novak YEAR: 1976 DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTION†
			FEET	METERS	° ′ ″

Detailed description

The old boundary monument was found in the prone position about 100 yards north of the computed position. The computed position of this monument was found to be in a cultivated field. A new point was selected to the south and out of any danger of farm operations. The old monument was then reset in the new location.

The station is located 2 1/2 miles north of Whitleysburg, 3 3/4 miles southeast of Goldsboro, and 4 miles northeast of Greensboro. The station is on road right-of-way.

To reach from the intersection of State Highways 313, 314, and 404 in the east edge of Greensboro, go east on State Highway 314 for 100 feet to a side road left. Turn left and go northwest on a paved road for 1.0 mile to a side road left. Continue straight ahead and go east on road 110 for 3.15 miles to a crossroads and the station on the left.

The surface mark is a 12-inch square limestone monument with a "P" on the east side and an "M" on the west side which is carved in the stone. It has a 1-inch carved cross in the apex of the stone which marks the point intersected. It projects 24 inches above the surface. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped N-S NO. 37 1976, set in an 8-inch mass of concrete which is 42 inches below the surface. They are 225 feet west of the center of Holly Springs Road, 201 feet west of the powerline pole, and 3 feet east of a witness post.

For additional information, see description for station SCHULTIE 1962.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 37 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1976 SECOND ORDER

SOURCE: C-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	38 59 43.20374	ELEVATION	17 METERS
GEODETIC LONGITUDE	75 44 10.67440	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
MD	1900	1,139,156.65	425,662.10	+ 0 47 35
DE	0700	409,150.54	362,642.93	- 0 12 04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION SCHULTIE

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525
(11-8-55)

U. S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [redacted] STATION

Name of Station: BOUNDARY MONUMENT 38

Chief of Party: R.W. Tomlinson **Year:** 1962 **State:** Delaware
Maryland **County:** Kent
Caroline

Description, including sketch of object: Boundary Monument No. 38, located 2.0 miles southwest of Sandtown, 5.0 miles southwest of Goldsboro, 4 1/2 miles northeast of Greensboro and on property owned by owned by Mr. Carl Sylvester.

The Boundary Monument No. 38 is a 12 X 12 inch limestone monument projecting 28 inches above the ground surface and marked with the letters M and P. The monument is in good condition but is leaning slightly west. Point observed and traversed to was a cross mark scribed on the apex of the monument. It is located in a cultivated field, 56.6 feet west-southwest of a 11-inch cedar tree and 152.0 feet south of a standard metal witness post and marker. A traverse measurement was made to triangulation station SYLVESTER 1961 distance being 39.084 m. 128.228 feet.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 38 DEL MD

STATE DELAWARE - MARYLAND YEAR 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

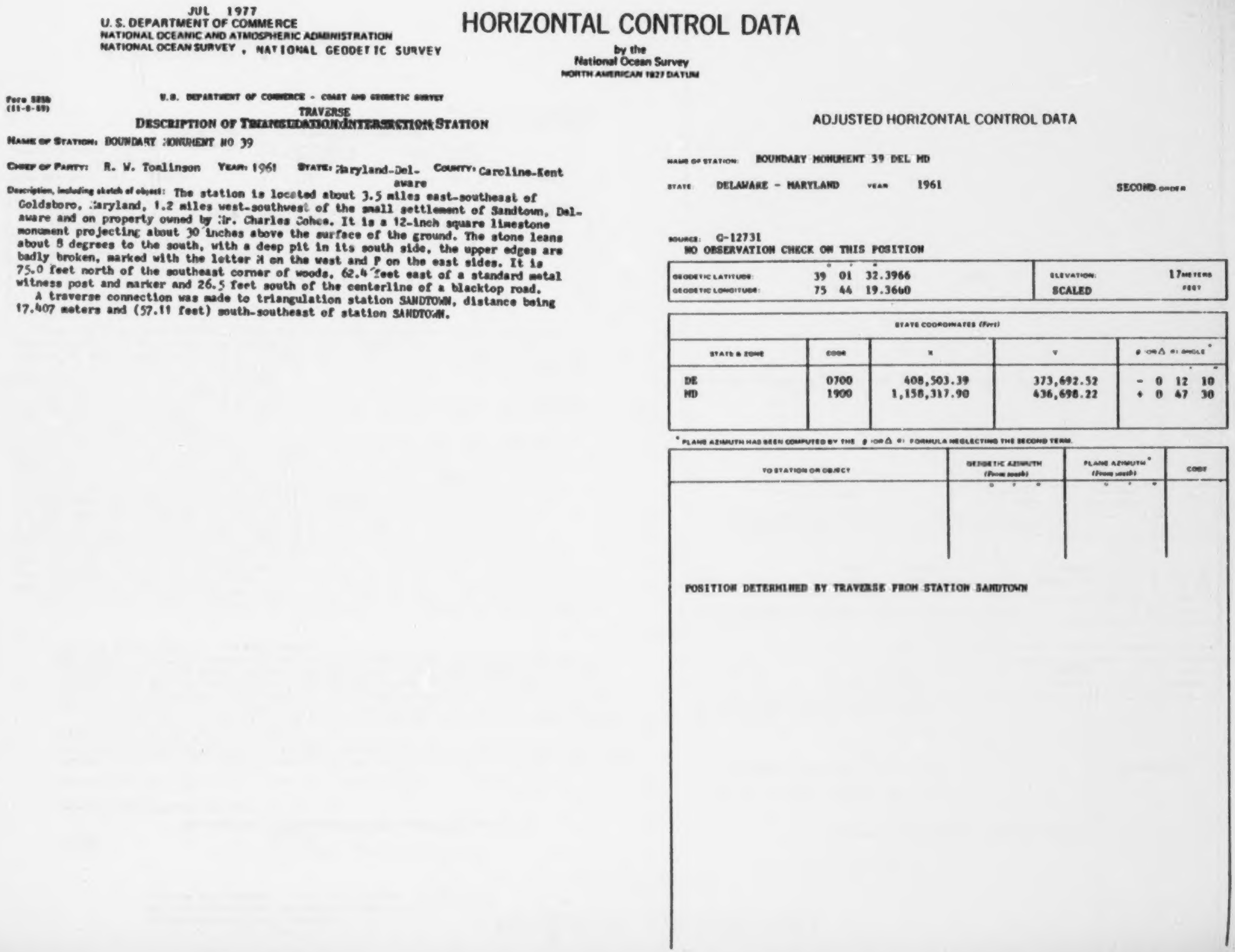
GEODETIC LATITUDE	39° 00′ 40.1039″	ELEVATION	19 METERS
GEODETIC LONGITUDE	75 44 15.2063	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (or Δα) = ANGLE*
				° ′ ″
DE	0700	408,813.02	368,400.84	- 0 12 07
MD	1900	1,158,719.29	431,412.99	+ 0 47 33

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION SYLVESTER



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-59)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

Name of Station: BOUNDARY MONUMENT NO 39

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Caroline-Kent

Description, including sketch of object: The station is located about 3.5 miles east-southeast of Goldsboro, Maryland, 1.2 miles west-southwest of the small settlement of Sandtown, Delaware and on property owned by Mr. Charles Cohee. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. The stone leans about 8 degrees to the south, with a deep pit in its south side, the upper edges are badly broken, marked with the letter M on the west and P on the east sides. It is 75.0 feet north of the southeast corner of woods, 62.4 feet east of a standard metal witness post and marker and 26.5 feet south of the centerline of a blacktop road.

A traverse connection was made to triangulation station SANDTOWN, distance being 17.407 meters and (57.11 feet) south-southeast of station SANDTOWN.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 39 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

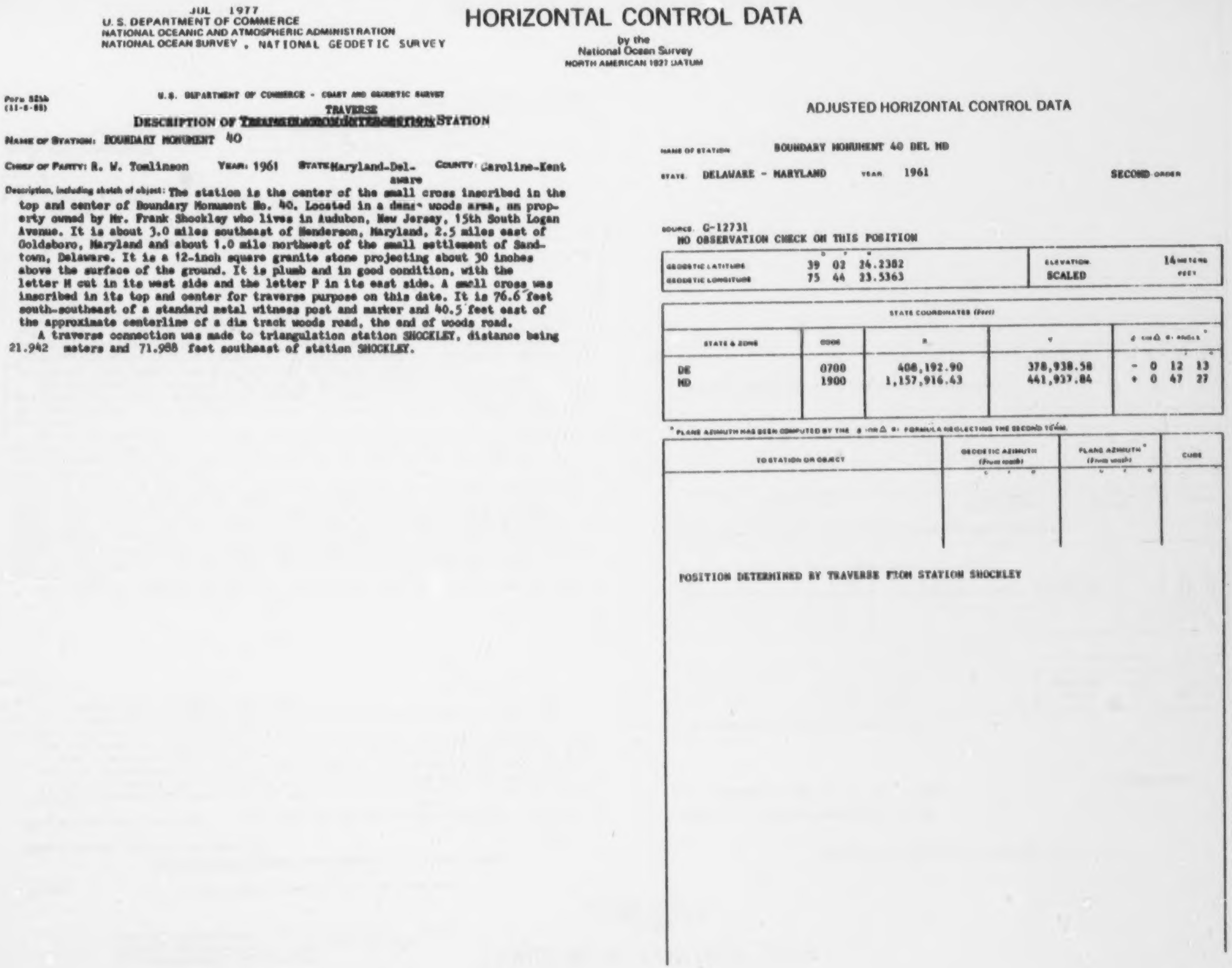
	° ′ ″		
GEODETIC LATITUDE:	39 01 32.3966	ELEVATION:	17 METERS
GEODETIC LONGITUDE:	75 44 19.3660	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
				° ′ ″
DE	0700	408,503.39	373,692.52	- 0 12 10
MD	1900	1,158,317.90	436,698.22	+ 0 47 30

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION SANDTOWN



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 40

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Caroline-Kent

Description, including sketch of object: The station is the center of the small cross inscribed in the top and center of Boundary Monument No. 40. Located in a dense woods area, on property owned by Mr. Frank Shockley who lives in Audubon, New Jersey, 15th South Logan Avenue. It is about 3.0 miles southeast of Henderson, Maryland, 2.5 miles east of Goldsboro, Maryland and about 1.0 mile northwest of the small settlement of Sandtown, Delaware. It is a 12-inch square granite stone projecting about 30 inches above the surface of the ground. It is plumb and in good condition, with the letter M cut in its west side and the letter P in its east side. A small cross was inscribed in its top and center for traverse purpose on this date. It is 76.6 feet south-southeast of a standard metal witness post and marker and 40.5 feet east of the approximate centerline of a dim track woods road, the end of woods road.

A traverse connection was made to triangulation station SHOCKLEY, distance being 21.942 meters and 71.988 feet southeast of station SHOCKLEY.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 40 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE	39 02 24.2382	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 44 23.5363	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δα) ANGLE* ° ' "
DE	0700	408,192.90	378,938.58	- 0 12 13
MD	1900	1,157,916.43	441,937.84	+ 0 47 27

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SHOCKLEY

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

Traverse
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 41

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1961 **STATE:** Delaware-Maryland **COUNTY:** Kent-Caroline

Description, including sketch of object: The station is the small cross inscribed in the top and center of Boundary Monument No. 41. It is a 12 x 12 inch square granite stone projecting about 30 inches above the surface of the ground, it is in a good plumb position and in good condition. It has the letter M cut in the west side of it and the letter P in the east side. It is 480.0 feet south of the approximate center of a graveled road and 35.0 feet east of a drainage ditch.

A traverse connection was made to triangulation station LEE, distance being 109.169 meters south of station LEE.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 41 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961

SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 03 16.6697	ELEVATION	14 METERS
GEODETIC LONGITUDE	75 44 27.7120	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	407,882.34	384,244.34	- 0 12 16
MD	1900	1,157,513.85	447,237.15	+ 0 47 25

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LEE

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(3-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 42
STATE: Maryland Delaware
COUNTY: Caroline Kent
NEAREST TOWN: Henderson
QUADRANGLE NO.: 390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK / DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION† ° ' "

A search was made for the old boundary monument and no evidence of it was found. It is believed under water in the Mudd Mill Pond. An old monument was located at the Denton, Delaware Highway yard and it was set in this location at this date. It is believed the old monument which is set at this point was the original monument number 11.

The monument is located 1 1/2 miles east-southeast of Henderson, Maryland, 15 miles southeast of Dover, Delaware, and just west of a small millpond. The property is owned by Medford Mills of Henderson, Maryland.

To reach this point from the post office in Henderson, go southeast on Big Tree Road for 0.6 mile to a side road left, turn left and go east on Mudd Mill Road for 0.85 mile to a T-intersection at the pond and the point on the left.

It is a 12 x 12 inch square limestone monument with a small chiseled cross in the top marking the point. The monument is set in a 4 by 4 feet square concrete base and it projects 2 feet. It has a P on the east side and an M on the west side, which marked the old Maryland and Pennsylvania boundary. It is 36.2 feet north of a tree with a triangle blaze, 65.7 feet north of the center line of Mudd Mill Road, 28.5 feet west of the center line of a dirt road and 3.6 feet southeast of a witness post.

For additional information, see description for station MILLPOND 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 42 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE	39 04 15.80692	ELEVATION	13 METERS
GEODETIC LONGITUDE	75 44 32.42562	NO CHECK	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ' "
MD	1900	1,157,059.63	453,214.23	+ 0 47 22
DE	0700	407,531.93	390,228.71	- 0 12 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION MILLPOND

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 43

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Caroline-Kent

Description, including sketch of object: The station is located about 2.0 miles south of Marydel, Delaware, 1.5 miles northeast of Henderson, Maryland and on property owned by Mr. Wm. E. Vanzerdo. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground, upright and firmly set and in good condition. It has the letter M cut on the west side and the letter P on the east side. It is 121.0 feet north-northwest of a standard metal witness post and marker and 99.6 feet north-northwest of a 36-inch poplar tree.

A traverse connection was made to triangulation station VANZERDO, distance being 29.535 meters and (96.90 feet) northwest of station VANZERDO.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 43 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

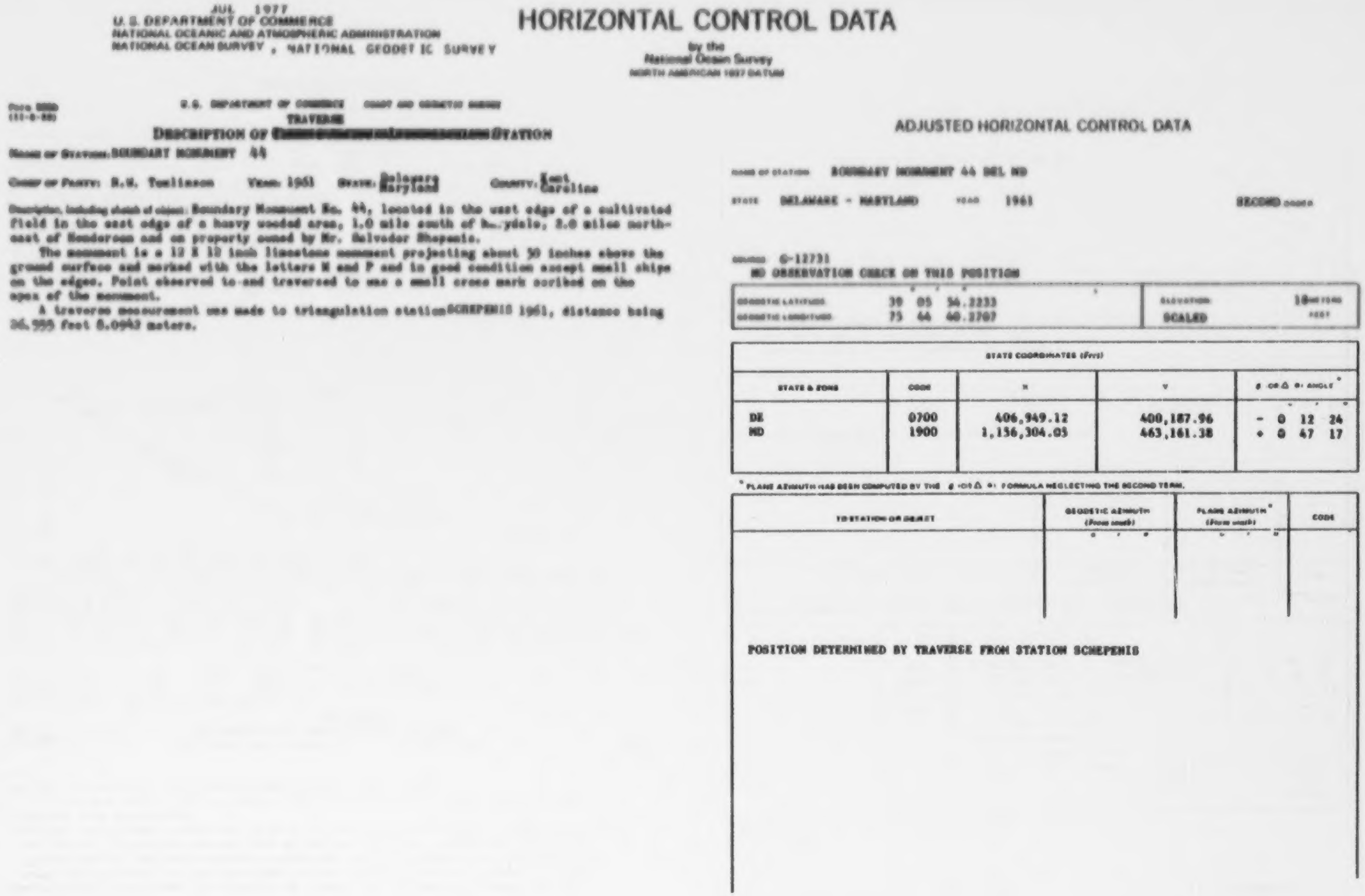
	°	′	″		
GEODETIC LATITUDE	39	05	02.0298	ELEVATION	METERS
GEODETIC LONGITUDE	75	44	36.1114	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	407,258.06	394,906.23	- 0 12 22
MD	1900	1,136,704.61	457,886.06	+ 0 47 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION VANZERDO



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF [redacted] STATION

NAME OF STATION: BOUNDARY MONUMENT 44

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 STATE: Delaware Maryland COUNTY: Kent Caroline

Description, including sketch of object: Boundary Monument No. 44, located in the west edge of a cultivated field in the east edge of a heavy wooded area, 1.0 mile south of H..ydale, 2.0 miles northeast of Henderson and on property owned by Mr. Salvador Shepenis.

The monument is a 12 X 12 inch limestone monument projecting about 30 inches above the ground surface and marked with the letters M and P and in good condition except small chips on the edges. Point observed to and traversed to was a small cross mark scribed on the apex of the monument.

A traverse measurement was made to triangulation station SCHEPENIS 1961, distance being 26.555 feet 8.0942 meters.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 44 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 05 56.2233	ELEVATION	18 METERS
GEODETIC LONGITUDE	75 46 40.2707	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE MD	0700 1900	406,949.12 1,156,304.05	400,187.96 463,161.38	- 0 12 24 + 0 47 17

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SCHEPENIS

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

Name of Station: BOUNDARY MONUMENT 45

Chief of Party: R. J. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Caroline-Kent

Description, including sketch of object: The station is located in the town of Marydel, about a 100 yards east-northeast of the Railroad Station and on State owned property. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. It has the Coat of Arms on the east and west sides. The monument is upright and in good condition. It is 92.6 feet east-southeast of a standard metal witness post and marker.

A traverse connection was made to triangulation station TOWN, distance being 27.805 meters and (91.224feet) southeast of station TOWN.

Form 526a
(9-5-56)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

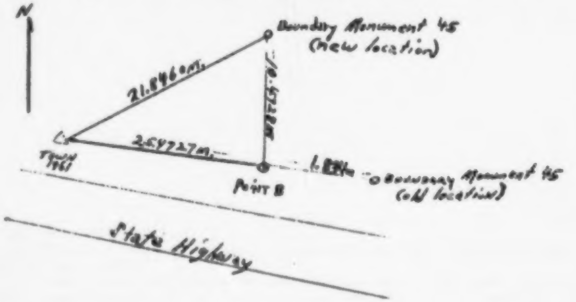
RECOVERY NOTE, ~~TRIANGULATION~~ STATION
TRAVERSE

R

Name of Station: Boundary Monument 45
Established By: R.L.T. Year: 1961 State: Delaware-Maryland
Recovered By:* J.O.B. Year: 1968 County: Kent-Caroline

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts: Station was recovered as described and found to be in good condition. Upon request of the local civic club the monument was relocated on the state line and away from the highway to a position where it could be better protected from damage.

Monument was moved 1.834 meters on line to station TOWN 1961 and north along the state line 10.4728 meters.



ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 45 DEL MD (see NOTE below)

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND-ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	39° 06′ 44.7954″	ELEVATION:	22 METERS
GEODETIC LONGITUDE:	75 44 44.2576	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE*
DE MD	0700 1900	406,653.32 1,155,919.47	405,305.62 468,272.90	− 0° 12′ 27″ + 0 47 14

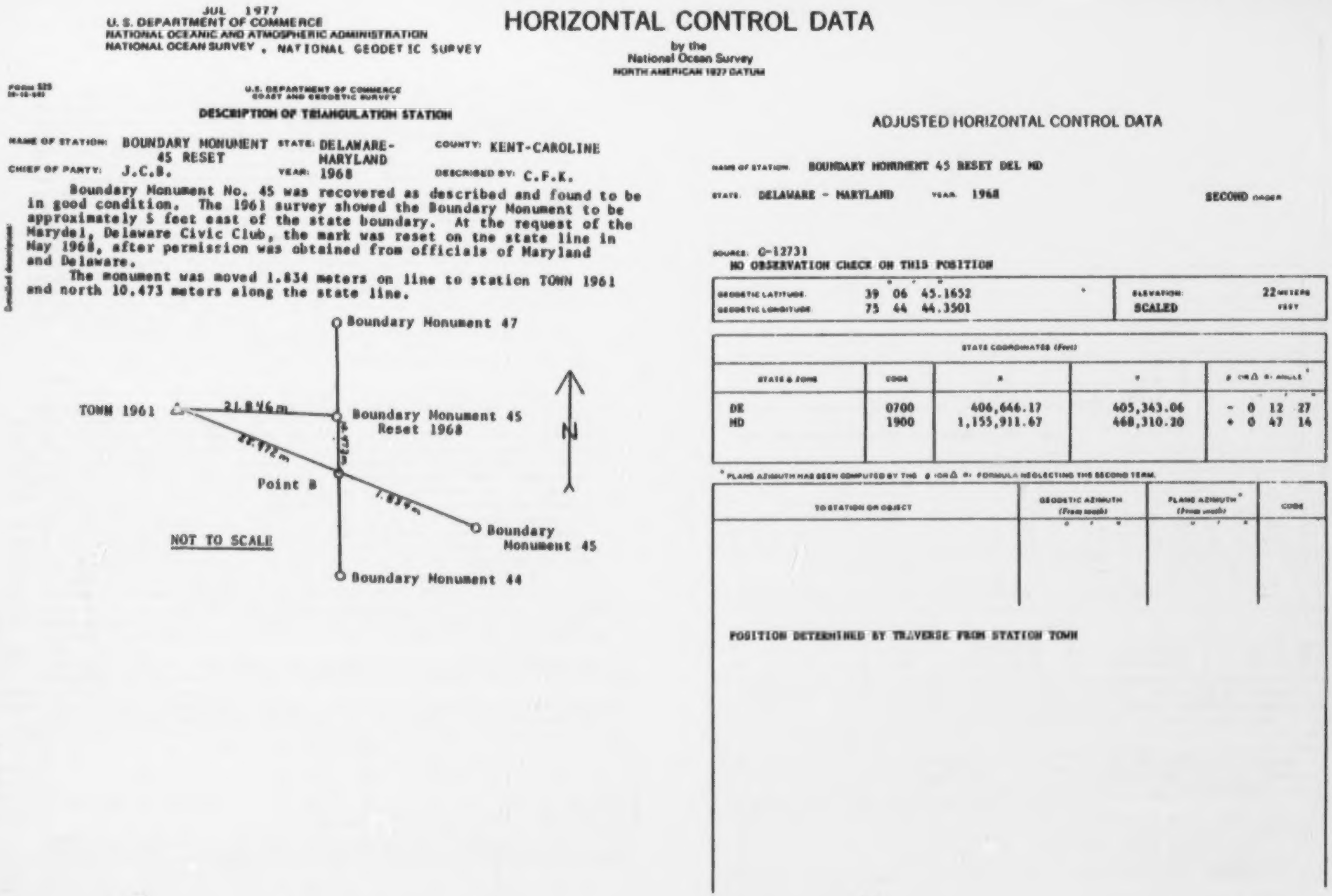
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α: FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION TOWN

NOTE

Monument moved to new location on boundary. This position is no longer valid. See BOUNDARY MONUMENT 45 RESET, 1968.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

FORM 525

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 45 RESET STATE: DELAWARE-MARYLAND COUNTY: KENT-CAROLINE
CHIEF OF PARTY: J.C.B. YEAR: 1968 DESCRIBED BY: C.F.K.

Boundary Monument No. 45 was recovered as described and found to be in good condition. The 1961 survey showed the Boundary Monument to be approximately 5 feet east of the state boundary. At the request of the Marydel, Delaware Civic Club, the mark was reset on tne state line in May 1968, after permission was obtained from officials of Maryland and Delaware.

The monument was moved 1.834 meters on line to station TOWN 1961 and north 10.473 meters along the state line.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 45 RESET DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1968 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

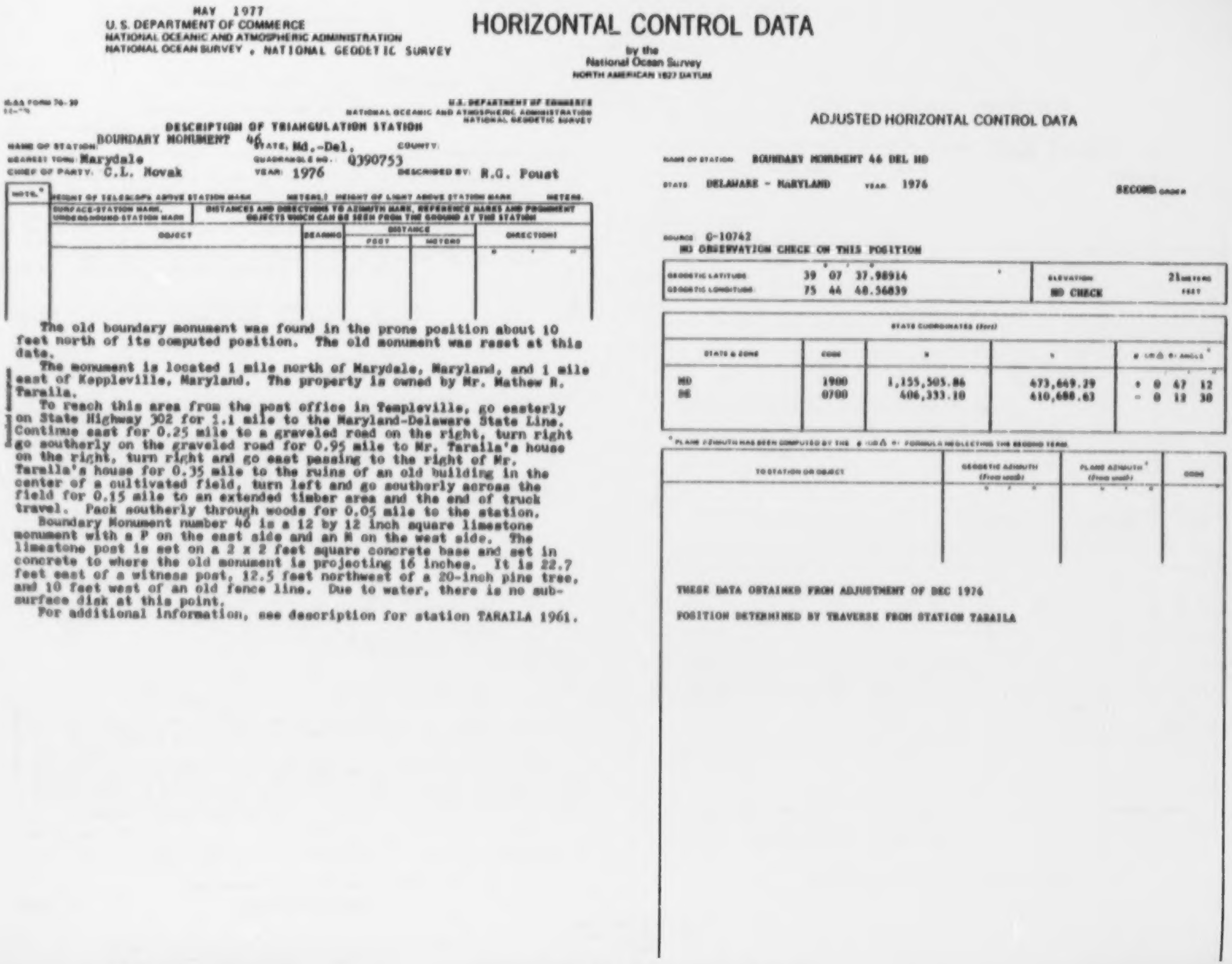
	° ′ ″		
GEODETIC LATITUDE:	39 06 45.1652	ELEVATION:	22 METERS
GEODETIC LONGITUDE:	75 44 44.3501	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE* ° ′ ″
DE	0700	406,646.17	405,343.06	- 0 12 27
MD	1900	1,155,911.67	468,310.20	+ 0 47 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION TOWN



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-75)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 46
STATE: Md.-Del.
COUNTY:
NEAREST TOWN: Marydale
QUADRANGLE NO.: Q390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. | HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTION
			FEET	METERS	° ′ ″

The old boundary monument was found in the prone position about 10 feet north of its computed position. The old monument was reset at this date.

The monument is located 1 mile north of Marydale, Maryland, and 1 mile east of Keppleville, Maryland. The property is owned by Mr. Mathew R. Taraila.

To reach this area from the post office in Templeville, go easterly on State Highway 302 for 1.1 mile to the Maryland-Delaware State Line. Continue east for 0.25 mile to a graveled road on the right, turn right go southerly on the graveled road for 0.95 mile to Mr. Taraila's house on the right, turn right and go east passing to the right of Mr. Taraila's house for 0.35 mile to the ruins of an old building in the center of a cultivated field, turn left and go southerly across the field for 0.15 mile to an extended timber area and the end of truck travel. Pack southerly through woods for 0.05 mile to the station.

Boundary Monument number 46 is a 12 by 12 inch square limestone monument with a P on the east side and an M on the west side. The limestone post is set on a 2 x 2 feet square concrete base and set in concrete to where the old monument is projecting 16 inches. It is 22.7 feet east of a witness post, 12.5 feet northwest of a 20-inch pine tree, and 10 feet west of an old fence line. Due to water, there is no sub-surface disk at this point.

For additional information, see description for station TARAILA 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 46 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	07	37.98914	ELEVATION	21 METERS
GEODETIC LONGITUDE	75	44	40.56839	NO CHECK	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ = Δλ sin φ ANGLE*
MD	1900	1,155,505.86	473,669.29	+ 0 47 12
DE	0700	406,333.10	610,680.63	- 0 12 30

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION TARAILA

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

MARYDEL (Queen Anne Kent, Md.,-Del.,C.D.M.,1932)--Located on Maryland-Delaware Boundary line about 1.2 miles NE of Templeville, Maryland, and 0.1 mile SE of highway leading from Templeville, Maryland, to Hartly, Delaware, on property owned and occupied by Mr. Fred Maske. Station is marked by a regulation station disk set in the top of sand stone boundary monument 12 inches square and about 2 1/2 or 3 feet above ground. When originally visited, this monument was very unsteady, but owner stated that a survey which had been made showed that stone was in its correct position. Position of stone was held fixed. It was then dug out and underground mark was set. The monument was then set in its original position and reinforced by concrete placed around base. It is now very steady. On one face of stone, there is an "M", and on opposite face is a "P". At one time this part of Delaware was part of Pennsylvania. Station is in open field just SW of Mr. Maske's house 26.2 meters SW of SW corner of house, 15.8 meters WSW of maple tree in front of house.

Underground and reference marks are standard bronze disks set in concrete as described in notes 7a, and 11a.

Reference mark No.1 is SE of station at NW corner of chicken house.

Reference mark No.2 is in fence line on W side of field, SW of station, 6.7 meters S of 12-inch cedar tree in fence line.

Reference mark No.3 is WSW of station, 6 meters SE of center line of highway, at NE end of entrance to lane, 1 meter NE of 8-inch leaning cedar tree which is the NE gatepost of gate to lane.

From Templeville, Maryland, take paved road to Hartly 1.2 miles NE to State Line, then right or SE 0.1 mile to Mr. Maske's house and station.

OBJECT	DISTANCE	DIRECTION
HARTLEY (1896)		0°00'00"0
R.M.No.1	142.28 feet	92 17 05
R.M.No.2	332.9 feet	191 34 34.0
R.M.No.3 approx.	1/4 mile	199 03 24.4

Height of signal above station mark - 34 meters.
Height of telescope above station mark - 31 meters.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MARYDEL
ESTABLISHED BY: O.D.M. YEAR: 1932 STATE: Maryland-Delaware
RECOVERED BY:* O.L. Novak YEAR: 1974 COUNTY: Md. Queen Annes
Del. Kent
BENCH MARK ALSO [X]
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN:
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
RM 2 (Hanger 111 distance)	SW			° ′ ″ 0 00 00.00
RM 6	ENE	73.24	22.324	152 27 29

The station mark and reference mark 2 were recovered and found in good condition. Reference marks 1, 3, 4 and 5 were not found. They were reported destroyed by Maryland Highway Department. A new reference mark 6 was established at this date. There is no place to set a azimuth mark except within 0.15 mile and reference mark 2 is nearly that distance.

A complete new description of the station follows.

The station is located on the Maryland-Delaware line about 10 miles west of Dover Delaware, 1 1/2 miles northeast of Templeville and just south of State Highway 11. The property owner's name is unknown.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MARYDEL BDRY MON 47 DEL MD
STATE DELAWARE - MARYLAND YEAR 1932 FIRST ORDER

SOURCE G-12731

	° ′ ″		
GEODETIC LATITUDE	39 08 30.3858	ELEVATION:	20.31 METERS
GEODETIC LONGITUDE	75 44 52.7609	NO CHECK	66.6 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	406,022.05	415,990.98	- 0 12 33
MD	1900	1,155,102.80	478,945.20	+ 0 47 09

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZ MK RM 3	76 11 34.6	76 24 07	0700
AZ MK RM 3	76 11 34.6	75 24 26	1900

To reach the station from a point where State Highway 11 crosses the Maryland-Delaware line, go west on State Highway 15 for 0.05 mile to a side road left. Turn left and go south on a farm road for 0.15 mile to a farm house and the station just northwest of the house and near a outside fireplace.

The station mark is a standard disk stamped MARYDEL 1932, set in the top of a 12-inch square Maryland-Delaware boundry monument which projects 18-inches. It is16 feet north of the chimney of the fire place, 35 feet north of the northwest corner of the farm house and (NOTE described) 65 feet west of the farm road.

Reference mark 2 is a standard disk stamped MARYDEL NO 2 1932, set in the top of a 12-inch square concrete monument which projects 6-inches. It is in a fence line across the open cultivated field to the west of the station. It is 3 feet west of the west edge of the cultivated field, 6 feet east of a small ditch and 22 feet south of a 14-inch cedar tree. (NOTE 11a)

Reference mark 6 is a standard disk stamped MARYDEL 1932 NO 6 1973, cemented in a drill hole in a large concrete slab in the center of the farm lane. It is 83 feet northeast of the fireplace chimney and 96 feet northeast of the northwest corner of the farm house. (NOTE described)

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION [illegible]~~ STATION

Name of Station: BOUNDARY MONUMENT 48

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Queen Annes-Kent

Description, including sketch of object: The station is located in a dense woods and low swamp area, on property owned by Mr. Sgelestei, about 2.0 miles southwest of Hartly, Delaware and about 1.5 miles northeast of Templeville, Maryland. It is a 12-inch square monument projecting about 30 inches above the surface of the ground, badly eroded at the bottom, the upper part is in good condition, but slightly out of plumb. It is 87.7 feet southwest of a standard metal witness post and marker, 79.0 feet southwest of a 8-inch triangular blazed oak tree.

A traverse connection was made to triangulation station WONDER, distance being 25.226 meters and (82.70 feet) southwest of station WONDER.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 48 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

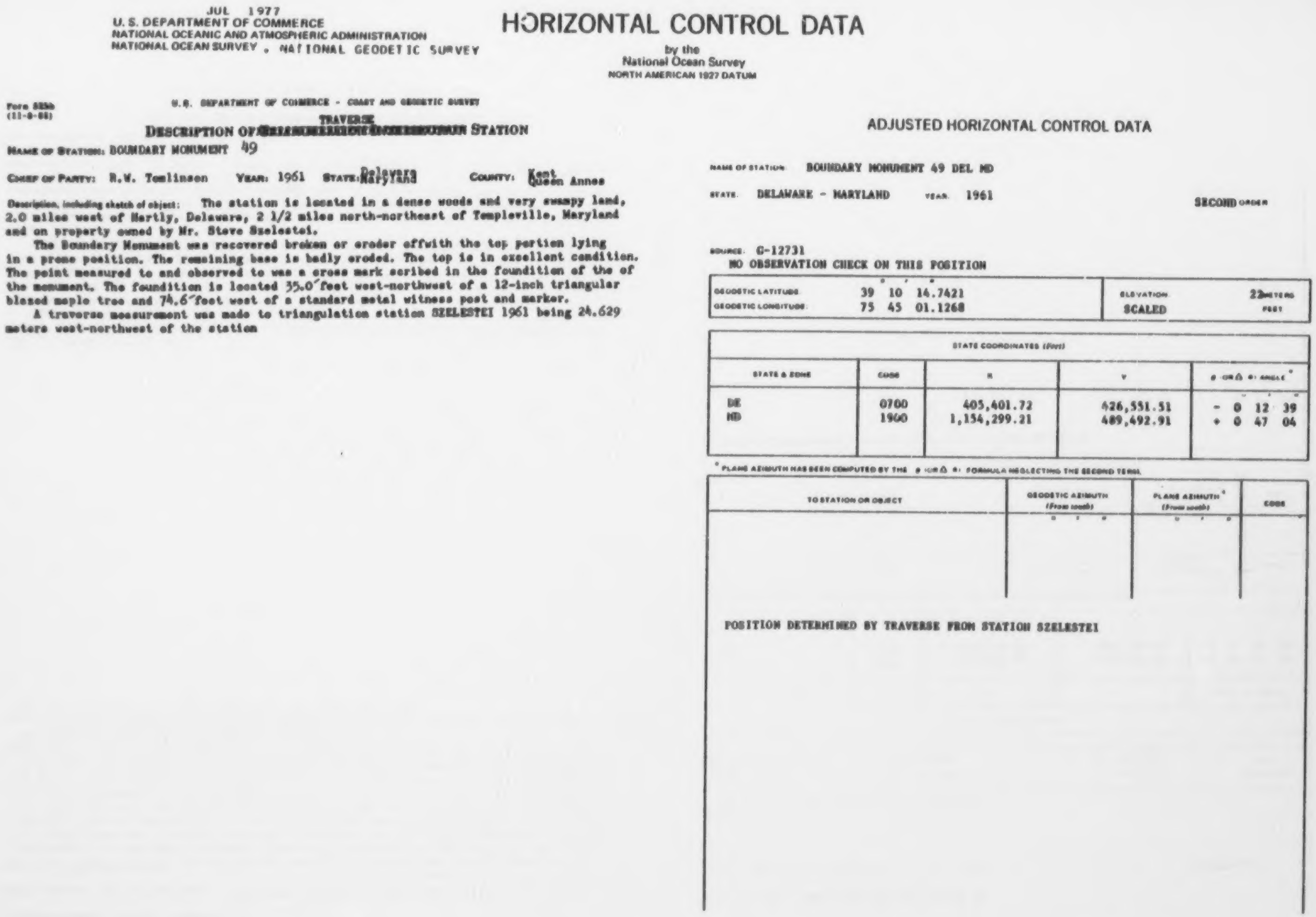
	° ′ ″		
GEODETIC LATITUDE	39 09 22.6145	ELEVATION	21 METERS
GEODETIC LONGITUDE	75 44 56.9781	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α: ANGLE* ° ′ ″
DE	0700	405,709.13	421,276.36	- 0 12 36
MD	1900	1,156,698.17	484,224.11	+ 0 47 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WONDER



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-66)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 49

CHIEF OF PARTY: R.W. Tomlinson **YEAR:** 1961 **STATE:** Delaware Maryland **COUNTY:** Kent Queen Annes

Description, including sketch of object: The station is located in a dense woods and very swampy land, 2.0 miles west of Hartly, Delaware, 2 1/2 miles north-northeast of Templeville, Maryland and on property owned by Mr. Steve Szelestei.

The Boundary Monument was recovered broken or eroder offwith the top portion lying in a prone position. The remaining base is badly eroded. The top is in excellent condition. The point measured to and observed to was a cross mark scribed in the foundition of the of the monument. The foundition is located 35.0′feet west-northwest of a 12-inch triangular blazed maple tree and 74.6′feet west of a standard metal witness post and marker.

A traverse measurement was made to triangulation station SZELESTEI 1961 being 24.629 meters west-northwest of the station

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 49 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

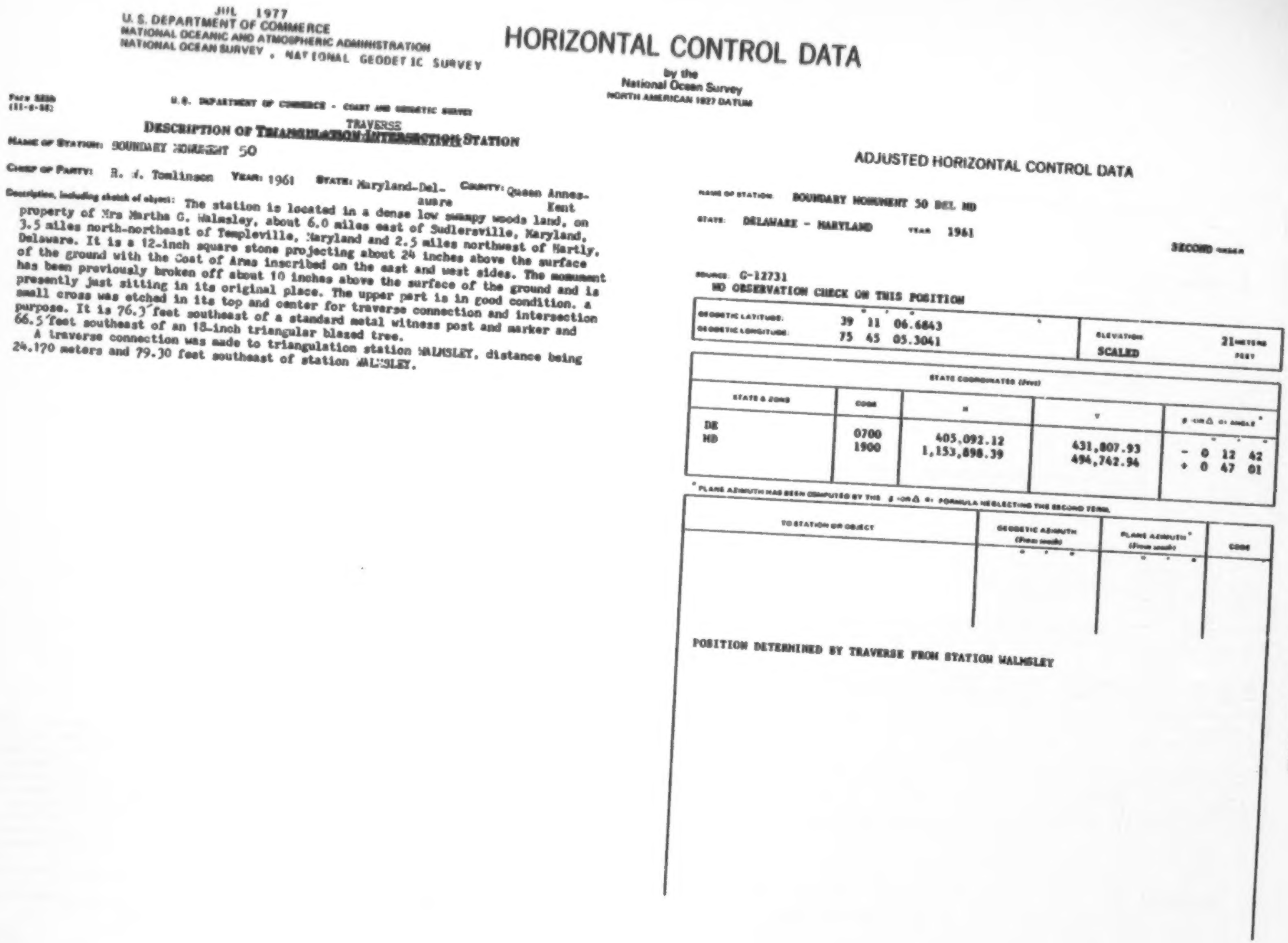
	° ′ ″		
GEODETIC LATITUDE	39 10 14.7421	ELEVATION	22 METERS
GEODETIC LONGITUDE	75 45 01.1268	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	x	y	θ (or Δα) angle*
DE	0700	405,401.72	426,551.51	- 0 12 39
MD	1900	1,154,299.21	489,492.91	+ 0 47 04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SZELESTEI



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525a
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 50

CHIEF OF PARTY: R. J. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Queen Annes-Kent

Description, including sketch of object: The station is located in a dense low swampy woods land, on property of Mrs Martha G. Walmsley, about 6.0 miles east of Sudlersville, Maryland, 3.5 miles north-northeast of Templeville, Maryland and 2.5 miles northwest of Hartly, Delaware. It is a 12-inch square stone projecting about 24 inches above the surface of the ground with the Coat of Arms inscribed on the east and west sides. The monument has been previously broken off about 10 inches above the surface of the ground and is presently just sitting in its original place. The upper part is in good condition. A small cross was etched in its top and center for traverse connection and intersection purpose. It is 76.3´feet southeast of a standard metal witness post and marker and 66.5´feet southeast of an 18-inch triangular blazed tree.

A traverse connection was made to triangulation station WALMSLEY, distance being 24.170 meters and 79.30 feet southeast of station WALMSLEY.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 50 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1961

SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	ELEVATION	
GEODETIC LATITUDE:	39 11 06.6843		21 METERS
GEODETIC LONGITUDE:	75 45 05.3041	SCALED	FEET

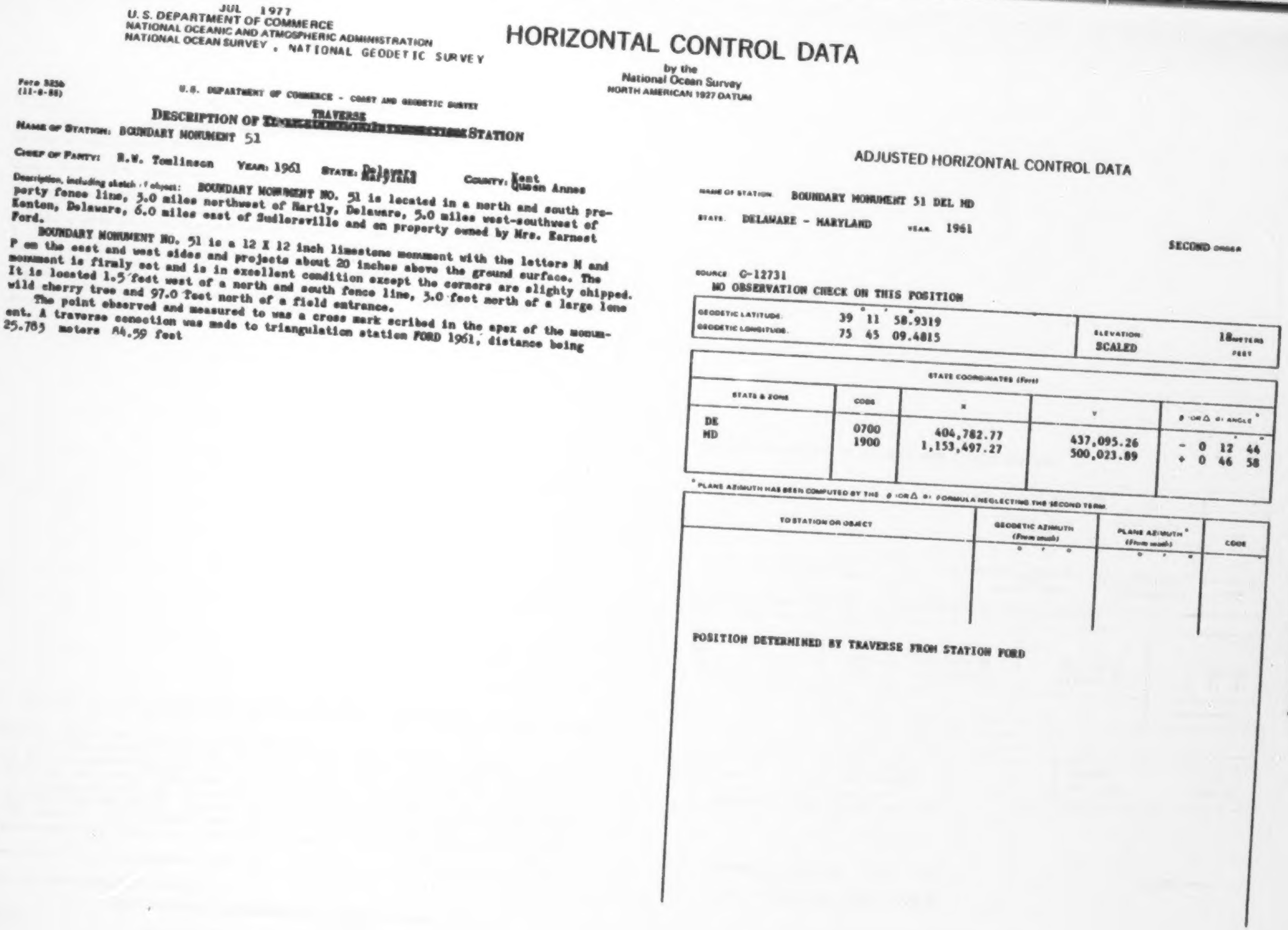
STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE* ° ′ ″
DE	0700	405,092.12	431,807.93	- 0 12 42
MD	1900	1,153,898.39	494,742.94	+ 0 47 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WALMSLEY



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 51

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 STATE: Delaware Maryland COUNTY: Kent Queen Annes

Description, including sketch, of object: BOUNDARY MONUMENT NO. 51 is located in a north and south property fence line, 3.0 miles northwest of Hartly, Delaware, 5.0 miles west-southwest of Kenton, Delaware, 6.0 miles east of Sudlersville and on property owned by Mrs. Earnest Ford.

BOUNDARY MONUMENT NO. 51 is a 12 X 12 inch limestone monument with the letters M and P on the east and west sides and projects about 20 inches above the ground surface. The monument is firmly set and is in excellent condition except the corners are slighty chipped. It is located 1.5 feet west of a north and south fence line, 3.0 feet north of a large lone wild cherry tree and 97.0 feet north of a field entrance.

The point observed and measured to was a cross mark scribed in the apex of the monument. A traverse conection was made to triangulation station FORD 1961, distance being 25.785 meters 84.59 feet

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 51 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961

SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

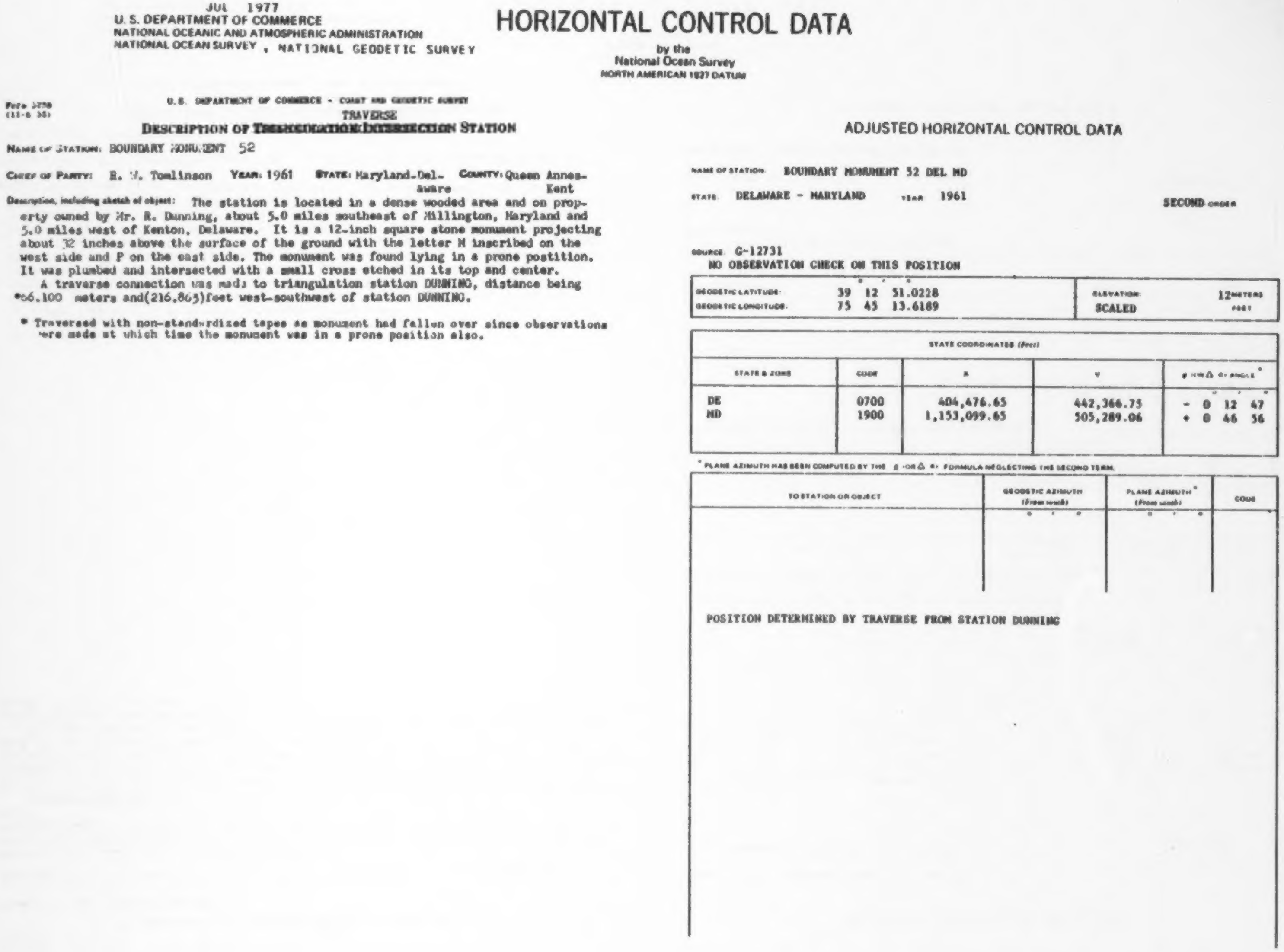
GEODETIC LATITUDE: 39° 11′ 58.9319″ GEODETIC LONGITUDE: 75 45 09.4815	ELEVATION: SCALED	18 METERS FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE *
DE	0700	404,782.77	437,095.26	- 0° 12′ 44″
MD	1900	1,153,497.27	500,023.89	+ 0 46 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH * (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION FORD



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
(11-6 38)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION/INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 52

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Queen Annes-Kent

Description, including sketch of object: The station is located in a dense wooded area and on property owned by Mr. R. Dunning, about 5.0 miles southeast of Millington, Maryland and 5.0 miles west of Kenton, Delaware. It is a 12-inch square stone monument projecting about 32 inches above the surface of the ground with the letter M inscribed on the west side and P on the east side. The monument was found lying in a prone postition. It was plumbed and intersected with a small cross etched in its top and center.

A traverse connection was made to triangulation station DUNNING, distance being *66.100 meters and(216.865)feet west-southwest of station DUNNING.

* Traversed with non-standardized tapes as monument had fallen over since observations were made at which time the monument was in a prone position also.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 52 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

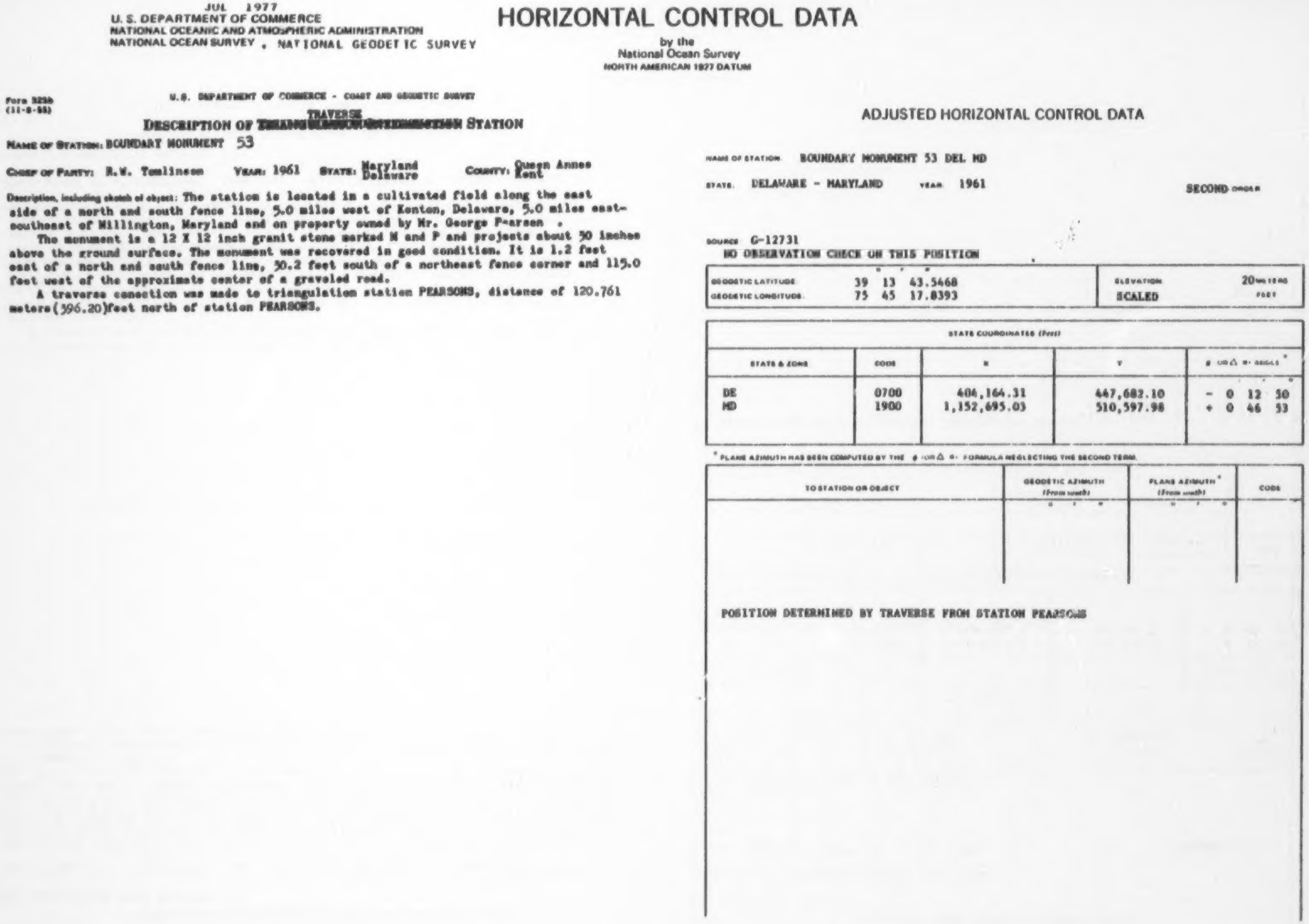
	°	′	″		
GEODETIC LATITUDE:	39	12	51.0228	ELEVATION:	12 METERS
GEODETIC LONGITUDE:	75	45	13.6189	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	404,476.65	442,366.73	- 0 12 47
MD	1900	1,153,099.65	505,289.06	+ 0 46 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION DUNNING



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 53

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 STATE: Maryland
Delaware COUNTY: Queen Annes
Kent

Description, including sketch of object: The station is located in a cultivated field along the east side of a north and south fence line, 5.0 miles west of Kenton, Delaware, 5.0 miles east-southeast of Millington, Maryland and on property owned by Mr. George Pearson .

The monument is a 12 X 12 inch granit stone marked M and P and projects about 30 inches above the ground surface. The monument was recovered in good condition. It is 1.2 feet east of a north and south fence line, 30.2 feet south of a northeast fence corner and 115.0 feet west of the approximate center of a graveled road.

A traverse conection was made to triangulation station PEARSONS, distance of 120.761 meters(396.20)feet north of station PEARSONS.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 53 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 13 43.5468	ELEVATION	20 METERS
GEODETIC LONGITUDE	75 45 17.8393	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α - ANGLE *
DE	0700	404,164.31	447,682.10	- 0 12 50
MD	1900	1,152,695.03	510,597.98	+ 0 46 53

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH * (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PEARSONS

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 54

Chief of Party: R.V. Tomlinson Year: 1961 State: Maryland Delaware County: Queen Annes Kent

Description, including sketch of object: The station is located in a north and south fence line in a cultivated field, 4 1/2 miles east-southeast of Millington, Maryland, 6.0 miles northwest Kenton, Delaware and on property owned by Mr. George Moffett. It is a 12 X 12 inch granit stone marked M and P and projects about 30 inches above the ground surface. It is leaning slighty south and has several bullet marks on the sides and is chipped slighty on the corners. The monument is considered in good condition. It is about 125 yards north-northeast of triangulation MOFFETT.

A traverse conectionwas made to triangulation station MOFFETT, distance being 119.353 meters (391.58) feet north-northeast of station MOFFETT.

ADJUSTED HORIZONTAL CONTROL DATA

Name of station: BOUNDARY MONUMENT 54 DEL MD

State: DELAWARE - MARYLAND Year: 1961 SECOND order

Source: G-12731
NO OBSERVATION CHECK ON THIS STATION

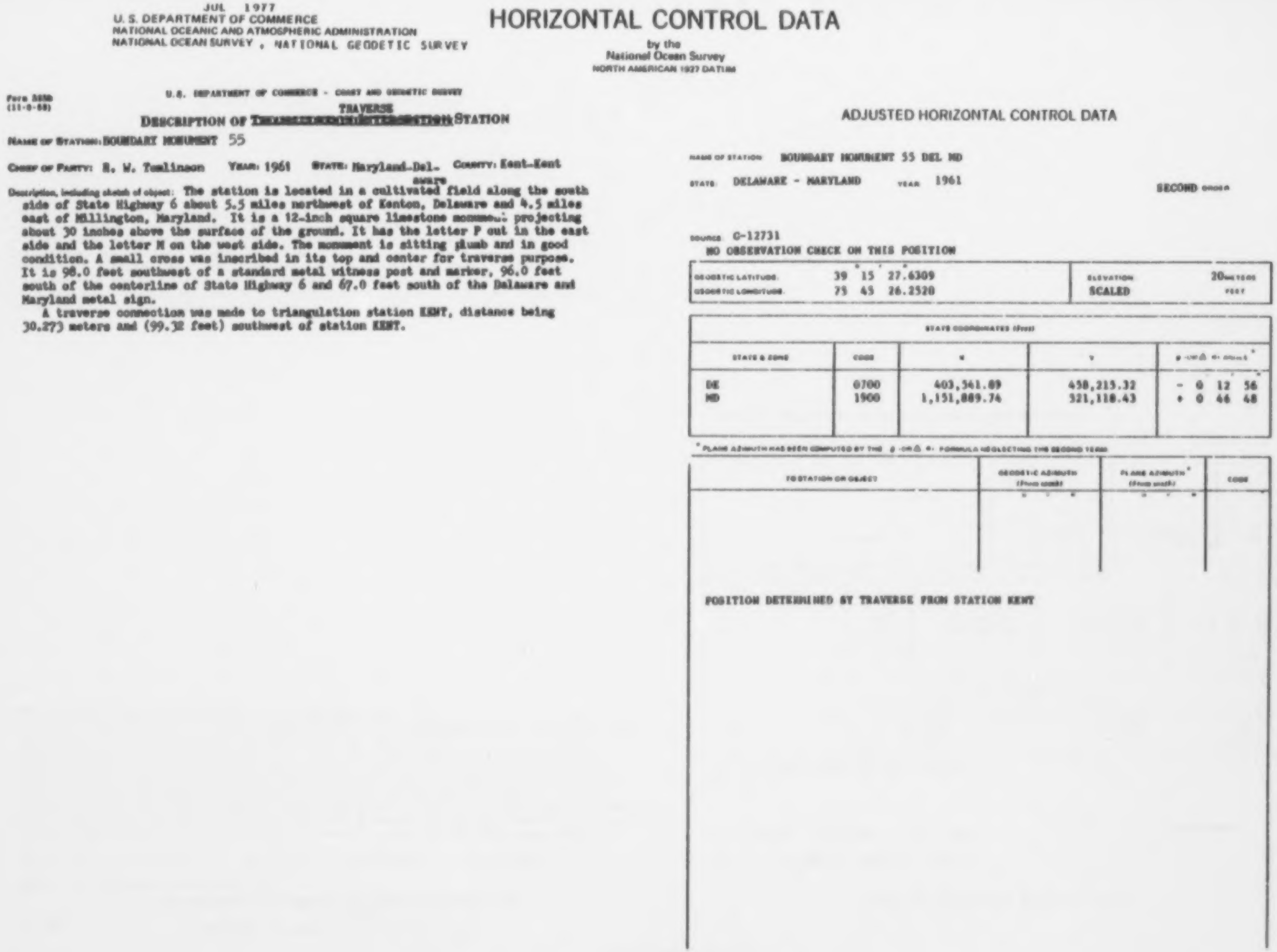
	° ′ ″		
Geodetic latitude	39 14 35.6419	Elevation	14 meters
Geodetic longitude	75 45 22.0680	SCALED	feet

State coordinates (feet)				
State & zone	Code	x	y	θ or Δ α angle*
DE	0700	403,851.29	452,934.07	- 0 12 53
MD	1900	1,152,290.49	515,863.53	+ 0 46 51

* Plane azimuth has been computed by the θ (or Δ α) formula neglecting the second term.

To station or object	Geodetic azimuth (From south) ° ′ ″	Plane azimuth* (From south) ° ′ ″	Code

POSITION DETERMINED BY TRAVERSE FROM STATION MOFFETT



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 55

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Kent-Kent

Description, including sketch of object: The station is located in a cultivated field along the south side of State Highway 6 about 5.5 miles northwest of Kenton, Delaware and 4.5 miles east of Millington, Maryland. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. It has the letter P cut in the east side and the letter M on the west side. The monument is sitting plumb and in good condition. A small cross was inscribed in its top and center for traverse purpose. It is 98.0 feet southwest of a standard metal witness post and marker, 96.0 feet south of the centerline of State Highway 6 and 67.0 feet south of the Delaware and Maryland metal sign.

A traverse connection was made to triangulation station KENT, distance being 30.273 meters and (99.32 feet) southwest of station KENT.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 55 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

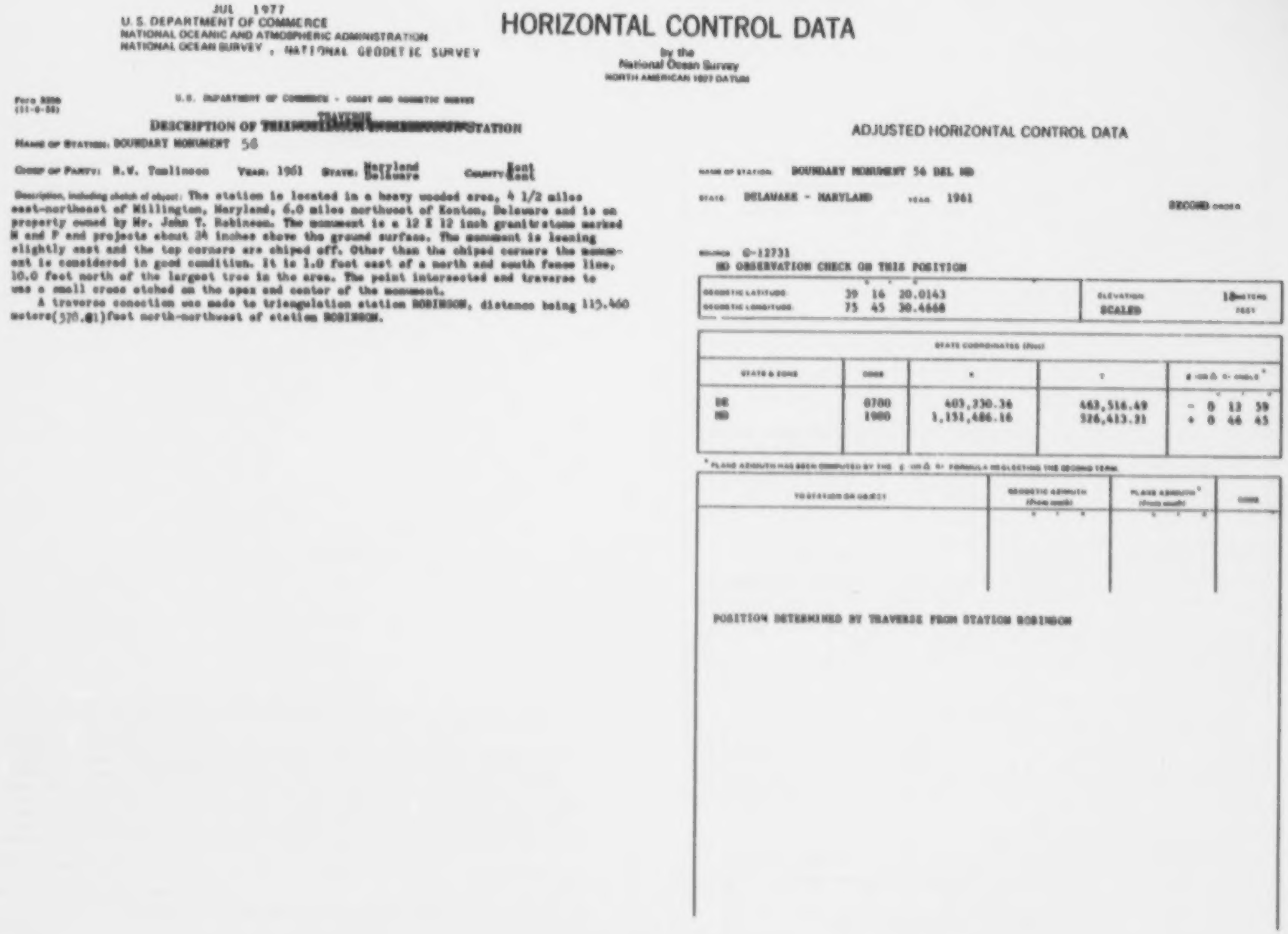
	° ′ ″		
GEODETIC LATITUDE	39 15 27.6309	ELEVATION	20 METERS
GEODETIC LONGITUDE	75 45 26.2520	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ or Δα* ° ′ ″
DE	0700	403,541.89	458,215.32	- 0 12 56
MD	1900	1,151,889.74	321,118.43	+ 0 46 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION KENT



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION~~ TRAVERSE STATION

NAME OF STATION: BOUNDARY MONUMENT 56

CHIEF OF PARTY: R.V. Tomlinson YEAR: 1961 STATE: Maryland
Delaware COUNTY: Kent
Kent

Description, including sketch of object: The station is located in a heavy wooded area, 4 1/2 miles east-northeast of Millington, Maryland, 6.0 miles northwest of Kenton, Delaware and is on property owned by Mr. John T. Robinson. The monument is a 12 X 12 inch granitestone marked M and P and projects about 24 inches above the ground surface. The monument is leaning slightly east and the top corners are chiped off. Other than the chiped corners the monument is considered in good conditiun. It is 1.0 foot east of a north and south fence line, 10.0 feet north of the largest tree in the area. The point intersected and traverse to was a small cross etched on the apex and center of the monument.

A traverse conection was made to triangulation station ROBINSON, distance being 115.460 meters(378.81)feet north-northwest of station ROBINSON.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 56 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

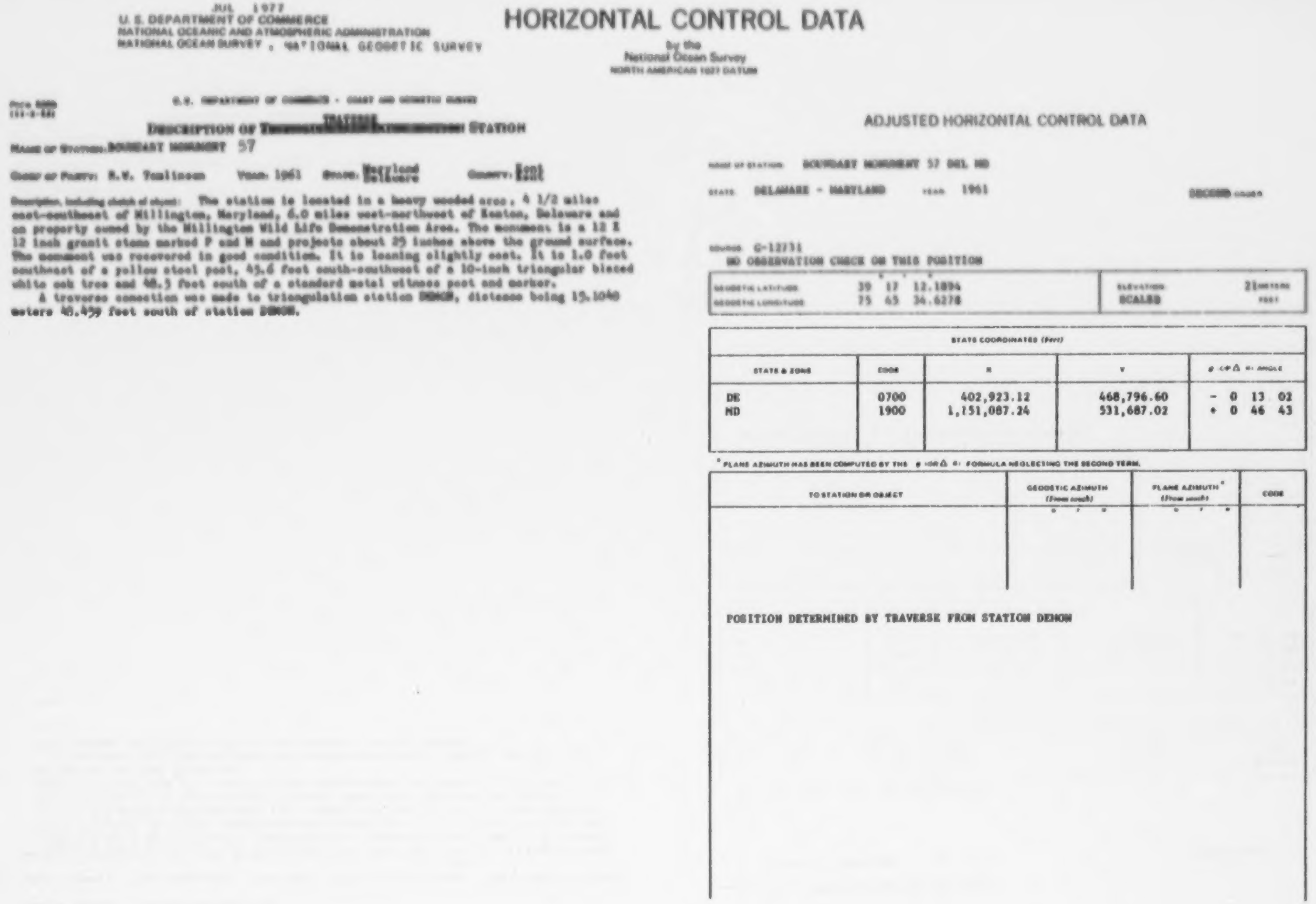
	°	'	"		
GEODETIC LATITUDE	39	16	20.0143	ELEVATION	18 METERS
GEODETIC LONGITUDE	75	45	30.4668	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ' "
DE	0700	403,230.36	463,516.49	- 0 12 59
MD	1900	1,151,486.16	326,413.31	+ 0 44 45

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION ROBINSON



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
[illegible]

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 57

Chief of Party: R.W. Tomlinson Year: 1961 State: Maryland
Delaware County: Kent
Kent

Description, including sketch of object: The station is located in a heavy wooded area, 4 1/2 miles east-southeast of Millington, Maryland, 6.0 miles west-northwest of Kenton, Delaware and on property owned by the Millington Wild Life Demonstration Area. The monument is a 12 X 12 inch granit stone marked P and M and projects about 25 inches above the ground surface. The monument was recovered in good condition. It is leaning slightly east. It is 1.0 foot southeast of a yellow steel post, 45.6 feet south-southeast of a 10-inch triangular blazed white oak tree and 48.3 feet south of a standard metal witness post and marker.

A traverse connection was made to triangulation station DEMON, distance being 15.1040 meters 49.559 feet south of station DEMON.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 57 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

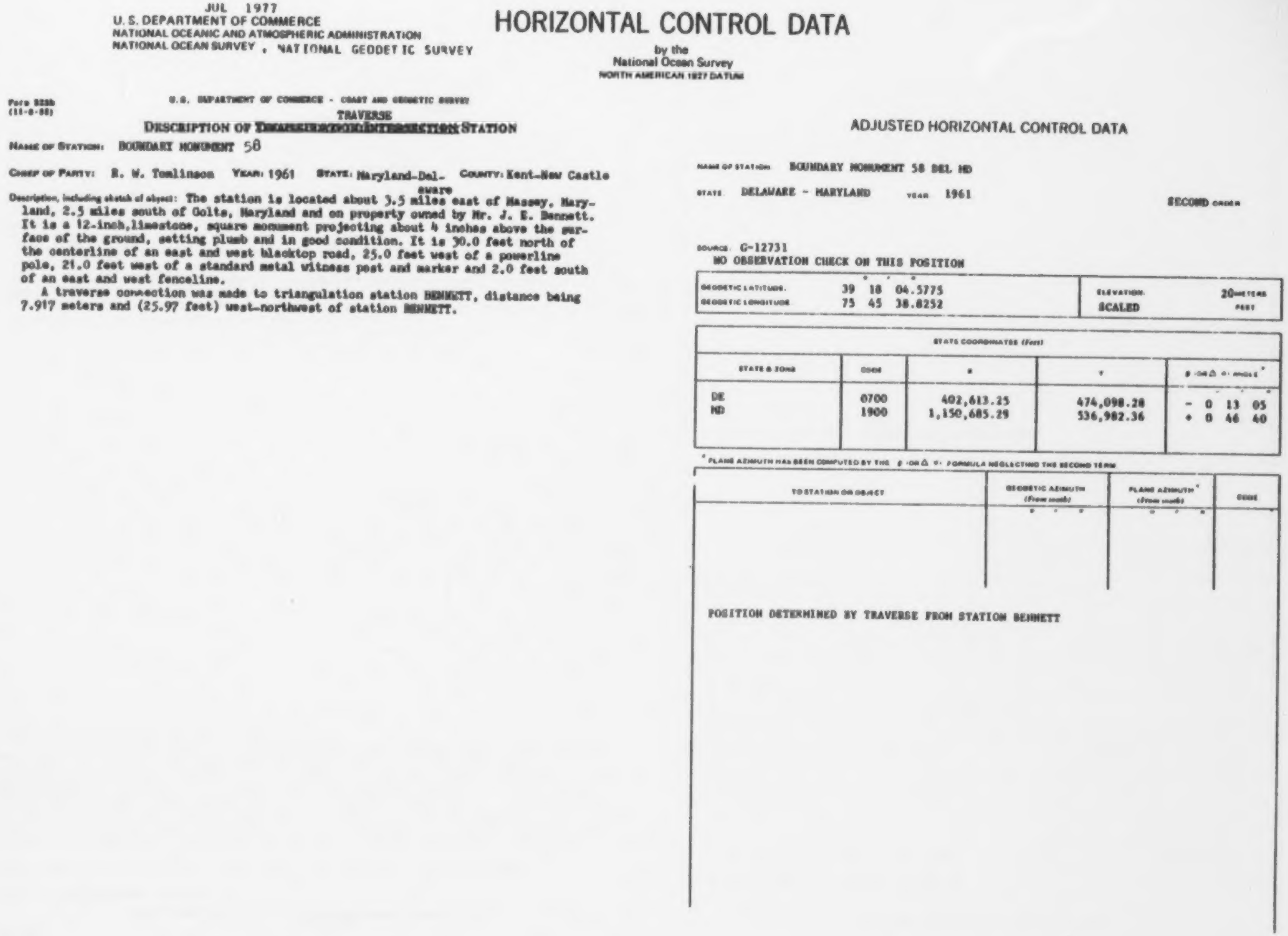
	° ' "		
GEODETIC LATITUDE	39 17 12.1894	ELEVATION	21 METERS
GEODETIC LONGITUDE	75 45 34.6278	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE
DE	0700	402,923.12	468,796.60	- 0 13 02
MD	1900	1,151,087.24	531,687.02	+ 0 46 43

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION DEMON



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 58

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Kent-New Castle

Description, including sketch of object: The station is located about 3.5 miles east of Massey, Maryland, 2.5 miles south of Golts, Maryland and on property owned by Mr. J. E. Bennett. It is a 12-inch, limestone, square monument projecting about 4 inches above the surface of the ground, setting plumb and in good condition. It is 30.0 feet north of the centerline of an east and west blacktop road, 25.0 feet west of a powerline pole, 21.0 feet west of a standard metal witness post and marker and 2.0 feet south of an east and west fenceline.

A traverse connection was made to triangulation station BENNETT, distance being 7.917 meters and (25.97 feet) west-northwest of station BENNETT.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 58 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961

SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

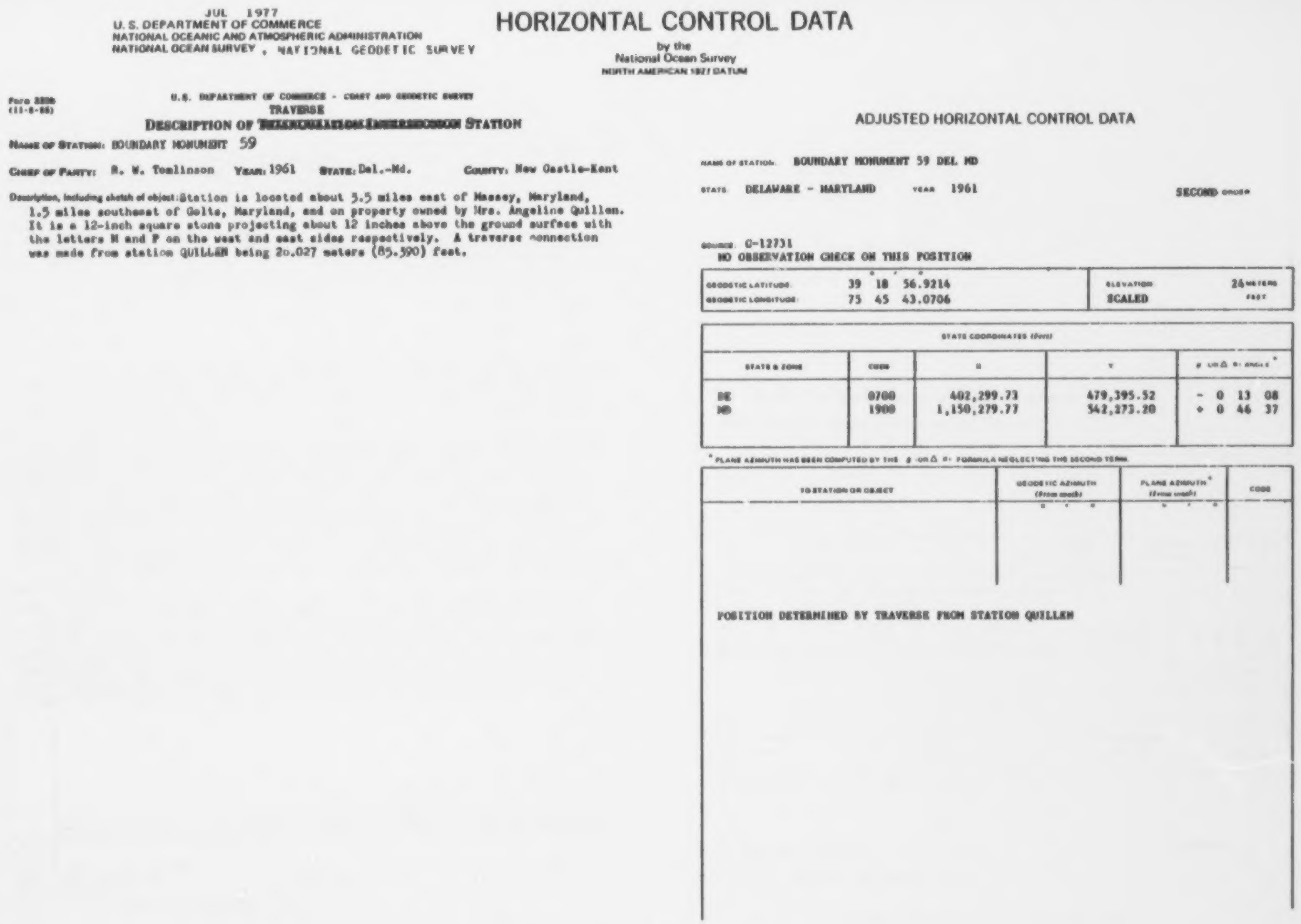
	° ′ ″		
GEODETIC LATITUDE	39 18 04.5775	ELEVATION:	20 METERS
GEODETIC LONGITUDE	75 45 38.8252	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	402,613.25	474,098.28	- 0 13 05
MD	1900	1,150,685.29	536,982.36	+ 0 46 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION BENNETT



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA
by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 59

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Del.-Md. COUNTY: New Castle-Kent

Description, including sketch of object: Station is located about 5.5 miles east of Massey, Maryland, 1.5 miles southeast of Golts, Maryland, and on property owned by Mrs. Angeline Quillen. It is a 12-inch square stone projecting about 12 inches above the ground surface with the letters M and P on the west and east sides respectively. A traverse connection was made from station QUILLEN being 26.027 meters (85.390) feet.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 59 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 18 56.9214	ELEVATION	24 METERS
GEODETIC LONGITUDE	75 45 43.0706	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	402,299.73	479,395.52	- 0 13 08
MD	1900	1,150,279.77	542,273.20	+ 0 46 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION QUILLEN

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-30
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 60
STATE: Maryland Delaware
COUNTY: Kent New Castle
NEAREST TOWN: Sassafras
QUADRANGLE NO.: Q390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Foust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE		DIRECTION
			FEET	METERS	° ′ ″

The old Maryland-Delaware Monument number 60 was recovered in the prone position at this date. It was reset at the computed position of the boundary. There was no evidence to indicate the original location of the monument.

It is located 18 airline miles northwest of Dover, 3 miles southeast of Sassafras, and 3 miles northeast of Massey.

To reach from the old railroad station in Golts, go southeast on a paved road for 0.8 mile to a point where the road curves to the east and the marker on the left.

The surface mark is a 12-inch square limestone monument which is set in a concrete monument which projects one foot. A small cutcross in the top and center of the monument marks the point intersected. The old coat of arms are nearly worn away by the weather of the past years. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped M-S NO. 60 1976, set in an 8-inch mass of concrete 36-inches below the surface of the ground. They are 62 feet northeast of the center of the paved road, 20 feet south of an 8-inch tree, 5.7 feet southwest of a witness post, and 2.09 feet west of station WHARTON 1934.

For additional information, see description for station WHARTON 1934.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 60 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 19 51.61581	ELEVATION	23 METERS
GEODETIC LONGITUDE	75 45 47.47959	NO CHECK	FEET

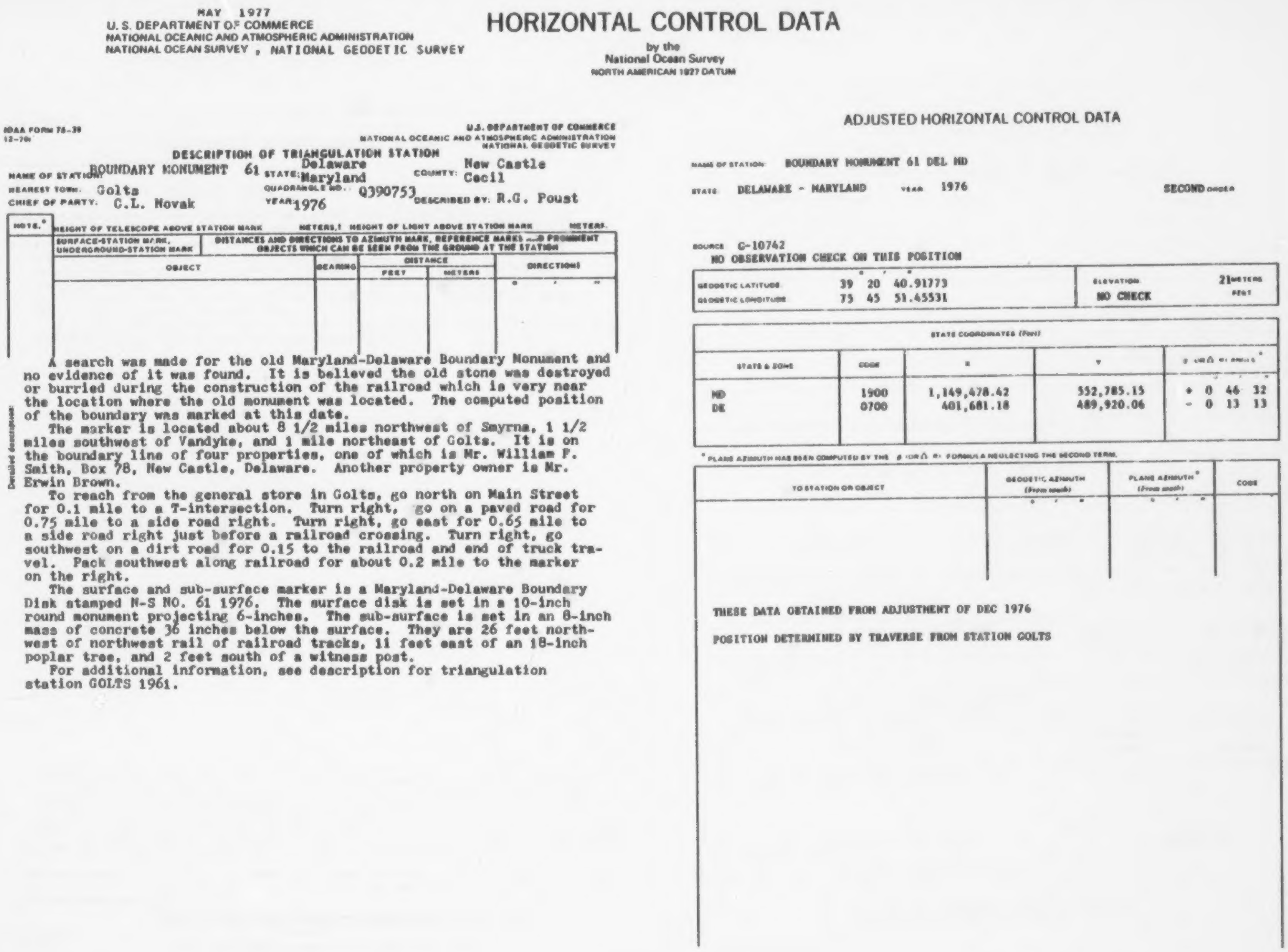
STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	[illegible]*
MD	1900	1,149,858.31	547,801.70	+ 0 46 35
DE	0700	401,974.41	484,930.64	- 0 13 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE [illegible] FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION WHARTON



MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
12-70

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 61
STATE: Delaware Maryland
COUNTY: New Castle Cecil
NEAREST TOWN: Golts
QUADRANGLE NO.: Q390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTION†
			FEET	METERS	° ′ ″

Detailed description:

A search was made for the old Maryland-Delaware Boundary Monument and no evidence of it was found. It is believed the old stone was destroyed or burried during the construction of the railroad which is very near the location where the old monument was located. The computed position of the boundary was marked at this date.

The marker is located about 8 1/2 miles northwest of Smyrna, 1 1/2 miles southwest of Vandyke, and 1 mile northeast of Golts. It is on the boundary line of four properties, one of which is Mr. William F. Smith, Box 78, New Castle, Delaware. Another property owner is Mr. Erwin Brown.

To reach from the general store in Golts, go north on Main Street for 0.1 mile to a T-intersection. Turn right, go on a paved road for 0.75 mile to a side road right. Turn right, go east for 0.65 mile to a side road right just before a railroad crossing. Turn right, go southwest on a dirt road for 0.15 to the railroad and end of truck travel. Pack southwest along railroad for about 0.2 mile to the marker on the right.

The surface and sub-surface marker is a Maryland-Delaware Boundary Disk stamped N-S NO. 61 1976. The surface disk is set in a 10-inch round monument projecting 6-inches. The sub-surface is set in an 8-inch mass of concrete 36 inches below the surface. They are 26 feet northwest of northwest rail of railroad tracks, 11 feet east of an 18-inch poplar tree, and 2 feet south of a witness post.

For additional information, see description for triangulation station GOLTS 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 61 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1976 SECOND ORDER

SOURCE G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	20	40.91773	ELEVATION	21 METERS
GEODETIC LONGITUDE	75	45	51.45531	NO CHECK	FEET

STATE COORDINATES (Feet)

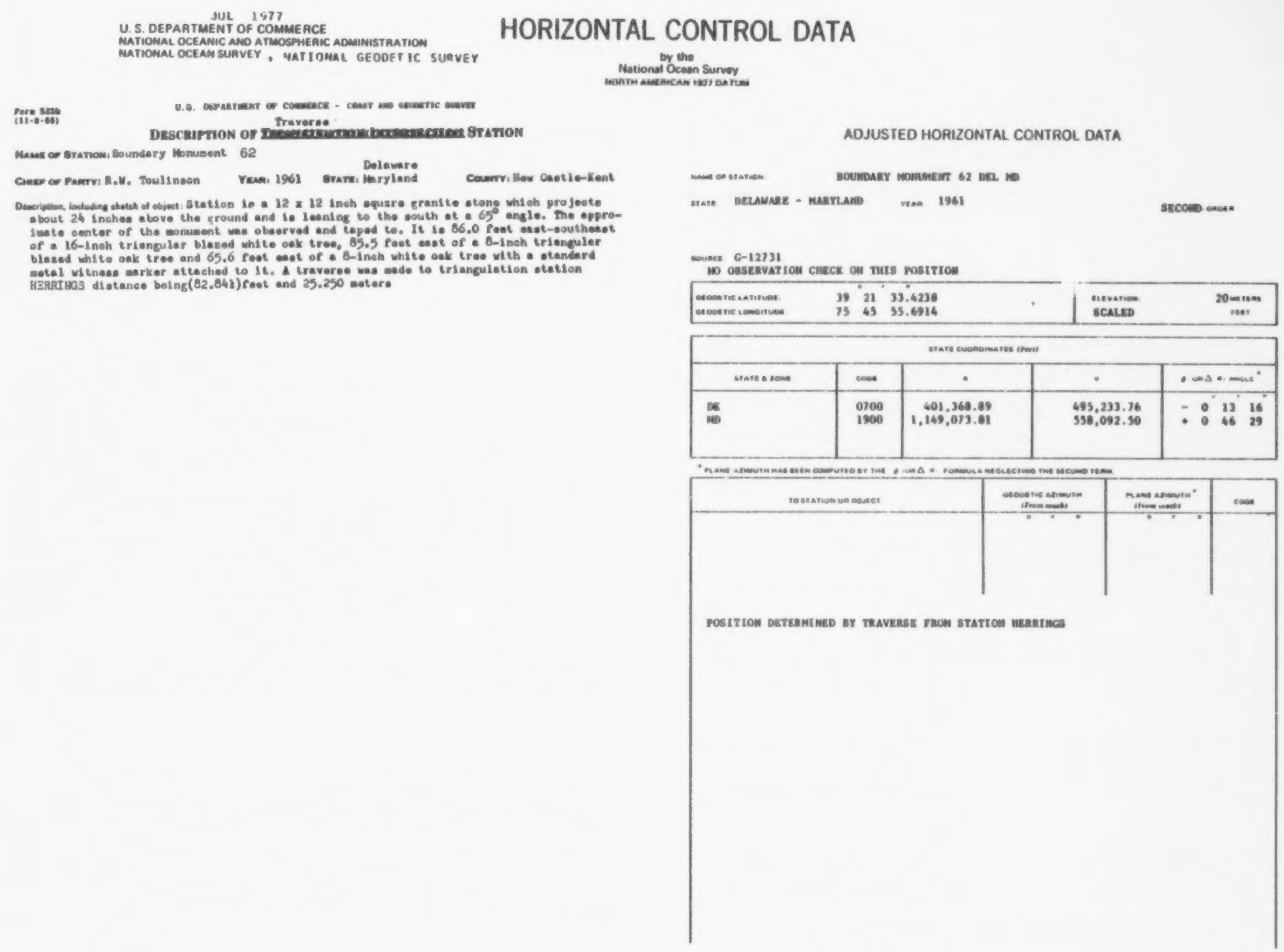
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
MD	1900	1,149,478.42	552,785.15	+ 0 46 32
DE	0700	401,681.18	489,920.06	- 0 13 13

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION GOLTS



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-66)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ Traverse STATION

NAME OF STATION: Boundary Monument 62

CHIEF OF PARTY: R.W. Toulinson **YEAR:** 1961 **STATE:** Delaware Maryland **COUNTY:** New Castle-Kent

Description, including sketch of object: Station is a 12 x 12 inch square granite stone which projects about 24 inches above the ground and is leaning to the south at a 65° angle. The approximate center of the monument was observed and taped to. It is 86.0 feet east-southeast of a 16-inch triangular blazed white oak tree, 85.5 feet east of a 8-inch triangular blazed white oak tree and 65.6 feet east of a 8-inch white oak tree with a standard metal witness marker attached to it. A traverse was made to triangulation station HERRINGS distance being(82.841)feet and 25.250 meters

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 62 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

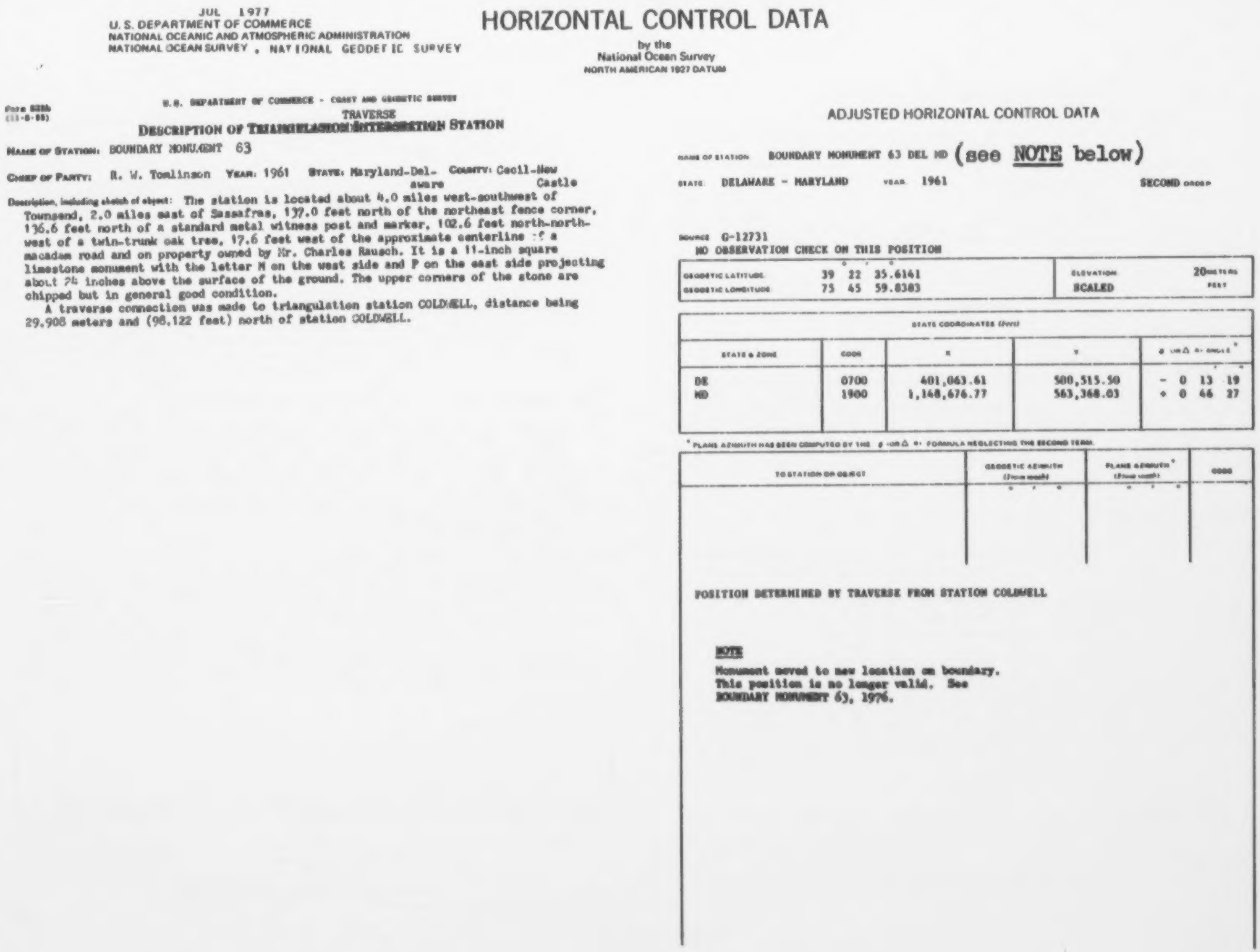
	°	′	″		
GEODETIC LATITUDE	39	21	33.4238	ELEVATION	20 METERS
GEODETIC LONGITUDE	75	45	55.6914	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	x	y	θ or Δα ANGLE*
DE	0700	401,368.89	495,233.76	− 0 13 16
MD	1900	1,149,073.81	558,092.50	+ 0 46 29

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION HERRINGS



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRAVERSE ~~TRIANGULATION~~ ~~INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 63

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 4.0 miles west-southwest of Townsend, 2.0 miles east of Sassafras, 137.0 feet north of the northeast fence corner, 136.6 feet north of a standard metal witness post and marker, 102.6 feet north-northwest of a twin-trunk oak tree, 17.6 feet west of the approximate centerline of a macadam road and on property owned by Mr. Charles Rausch. It is a 11-inch square limestone monument with the letter M on the west side and P on the east side projecting about 74 inches above the surface of the ground. The upper corners of the stone are chipped but in general good condition.

A traverse connection was made to triangulation station COLDWELL, distance being 29.908 meters and (98.122 feet) north of station COLDWELL.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 63 DEL MD (see NOTE below)

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 22 35.6141	ELEVATION	20 METERS
GEODETIC LONGITUDE	75 45 59.8383	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE MD	0700 1900	401,063.61 1,148,676.77	500,515.50 563,368.03	- 0 13 19 + 0 46 27

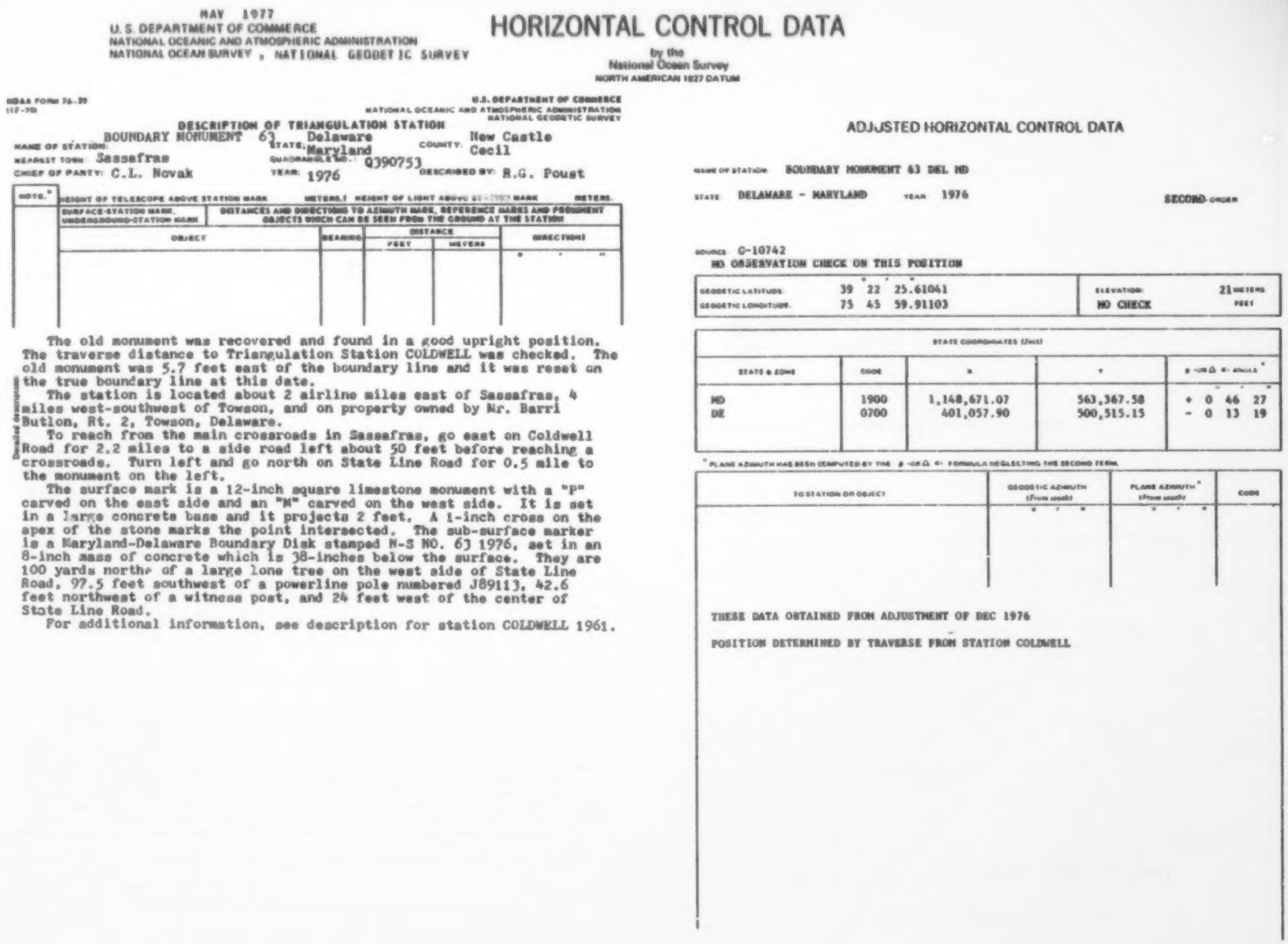
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION COLDWELL

NOTE

Monument moved to new location on boundary.
This position is no longer valid. See
BOUNDARY MONUMENT 63, 1976.



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA
by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 63
STATE: Delaware Maryland
COUNTY: New Castle Cecil
NEAREST TOWN: Sassafras
QUADRANGLE NO.: Q390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ' "

The old monument was recovered and found in a good upright position. The traverse distance to Triangulation Station COLDWELL was checked. The old monument was 5.7 feet east of the boundary line and it was reset on the true boundary line at this date.

The station is located about 2 airline miles east of Sassafras, 4 miles west-southwest of Towson, and on property owned by Mr. Barri Butlon, Rt. 2, Towson, Delaware.

To reach from the main crossroads in Sassafras, go east on Coldwell Road for 2.2 miles to a side road left about 50 feet before reaching a crossroads. Turn left and go north on State Line Road for 0.5 mile to the monument on the left.

The surface mark is a 12-inch square limestone monument with a "P" carved on the east side and an "M" carved on the west side. It is set in a large concrete base and it projects 2 feet. A 1-inch cross on the apex of the stone marks the point intersected. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped M-S NO. 63 1976, set in an 8-inch mass of concrete which is 38-inches below the surface. They are 100 yards north of a large lone tree on the west side of State Line Road, 97.5 feet southwest of a powerline pole numbered J89113, 42.6 feet northwest of a witness post, and 24 feet west of the center of State Line Road.

For additional information, see description for station COLDWELL 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 63 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "		
GEODETIC LATITUDE:	39 22 25.61041	ELEVATION:	21 METERS
GEODETIC LONGITUDE:	75 45 59.91103	NO CHECK	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ -or Δ α- ANGLE* ° ' "
MD	1900	1,148,671.07	563,367.58	+ 0 46 27
DE	0700	401,057.90	500,515.15	- 0 13 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ -or Δ α- FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION COLDWELL

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 64
STATE: Delaware Maryland
COUNTY: New Castle Cecil
NEAREST TOWN: Townsend
QUADRANGLE NO.: Q390753
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. | HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

Detailed description

A search was made for the old Maryland-Delaware Boundary Monument and no evidence of it was found. It was reported that the old monument was removed from the old wooded fence line and buried under rubbish on the east side of the road. A new Maryland-Delaware marker was established to the south of triangulation station TOWNSEND and out of the cultivated field where the computed position was found to be.

The marker is located about 10 miles northwest of Dover, 5 miles southwest of Middletown, and 4 miles west of Townsend. The property is owned by Mr. C. M. Canton, Route 896, Towson, Maryland.

To reach from the main intersection in the small village of Sassafras, go east on Coldwell Road for 2.2 miles to a side road left about 50 feet before reaching a crossroads. Turn left and go north on State Line Road for 1.4 miles to a farm road left and the marker in the northwest angle of the intersection.

The surface mark is a Maryland-Delaware Boundary Disk stamped N-S MC. 64 1976, set in the top of a 12-inch round concrete monument which is flush with the surface. The sub-surface marker is a similar disk set in the top of an 8-inch mass of concrete which is 40 inches below the surface. They are 25 feet west of the center of State Line Road, 25 feet north of the center of the farm road, 3.5 feet north of a telephone cable marker pole numbered WH 72-100, and 1.7 feet north of a witness post.

For additional information, see description for Triangulation Station TOWNSEND 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 64 DEL MD
STATE: DELAWARE - MARYLAND   YEAR: 1976   SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 23 11.18724	ELEVATION	17 METERS
GEODETIC LONGITUDE	75 46 03.59480	NO CHECK	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE* ° ′ ″
MD	1900	1,148,319.56	567,974.57	+ 0 46 26
DE	0700	400,786.53	505,127.64	- 0 13 22

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION TOWNSEND

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525a
(11-8-65)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 65

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Cecil-New Castle

Description, including sketch of object: The station is located about 4.0 miles west-northwest of Townsend, 2.0 miles north of Sassafras, 1.5 miles south-southeast of Warwick, 116.8 feet south-southwest of a standard metal witness post and marker, 96.0 feet south-southwest of a T-intersection of a fenceline, 83.0 feet south-southwest of an east and west fenceline and on property owned by Mr. Oye Lockerman. It is a 11-inch square limestone monument bearing the Coat of Arms on the east and west sides and projects about 18 inches above the surface of the ground.

A traverse connection was made to triangulation station LOCKERMAN, distance being 30.447 meters and (99.89 feet) southeast of station LOCKERMAN.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 65 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND-ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

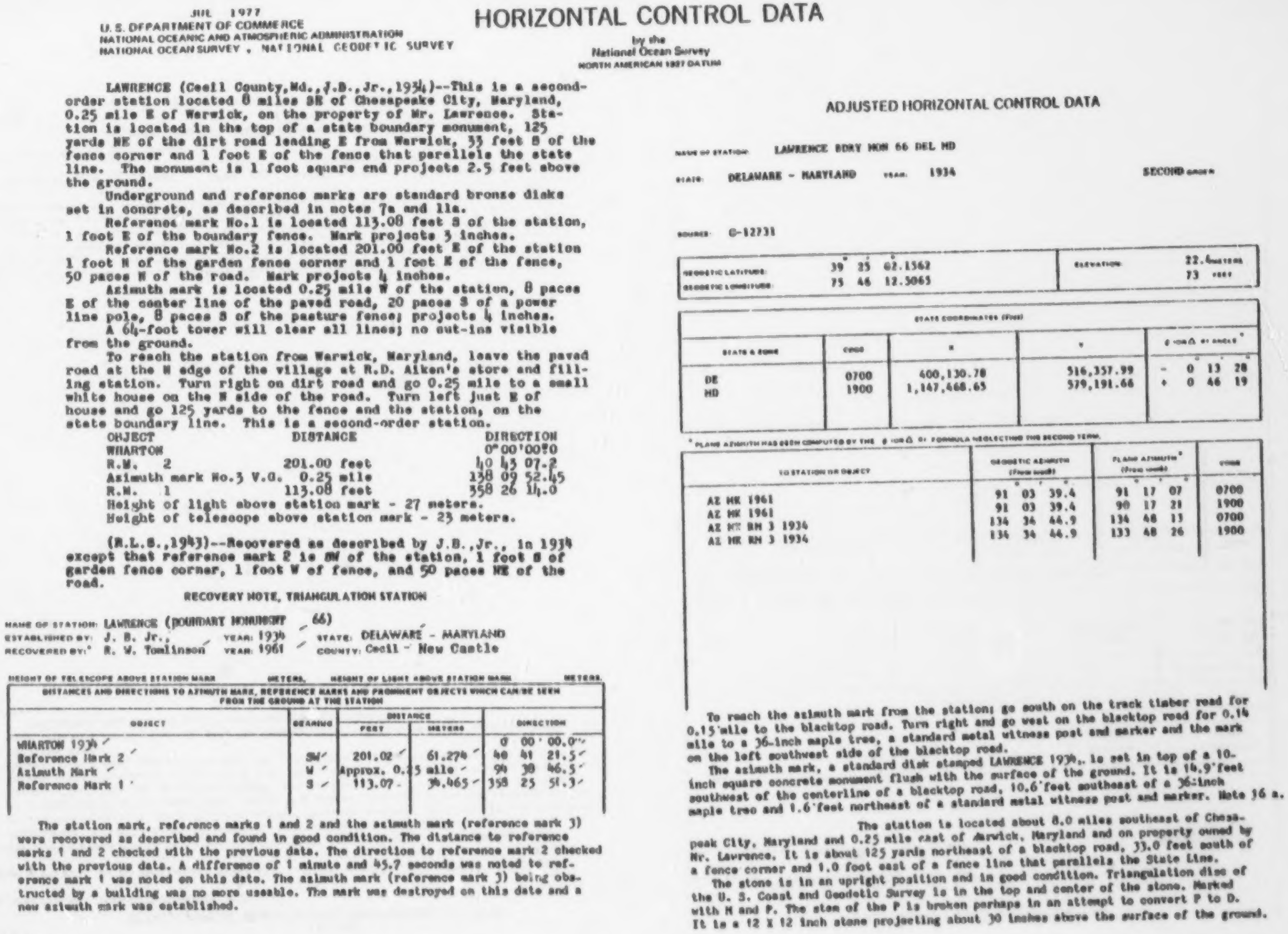
	° ′ ″		
GEODETIC LATITUDE	39 24 09.8563	ELEVATION:	17 METERS
GEODETIC LONGITUDE	75 46 08.3442	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ [illegible] ANGLE* ° ′ ″
DE	0700	400,436.79	511,065.10	− 0 13 25
MD	1900	1,147,866.64	573,904.97	+ 0 46 22

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE [illegible] FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LOCKERMAN



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

LAWRENCE (Cecil County,Md.,J.B.,Jr.,1934)--This is a second-order station located 8 miles SE of Chesapeake City, Maryland, 0.25 mile E of Warwick, on the property of Mr. Lawrence. Station is located in the top of a state boundary monument, 125 yards NE of the dirt road leading E from Warwick, 33 feet S of the fence corner and 1 foot E of the fence that parallels the state line. The monument is 1 foot square and projects 2.5 feet above the ground.

Underground and reference marks are standard bronze disks set in concrete, as described in notes 7a and 11a.

Reference mark No.1 is located 113.08 feet S of the station, 1 foot E of the boundary fence. Mark projects 3 inches.

Reference mark No.2 is located 201.00 feet E of the station 1 foot N of the garden fence corner and 1 foot E of the fence, 50 paces N of the road. Mark projects 4 inches.

Azimuth mark is located 0.25 mile W of the station, 8 paces E of the center line of the paved road, 20 paces S of a power line pole, 8 paces S of the pasture fence; projects 4 inches.

A 64-foot tower will clear all lines; no cut-ins visible from the ground.

To reach the station from Warwick, Maryland, leave the paved road at the N edge of the village at R.D. Aiken's store and filling station. Turn right on dirt road and go 0.25 mile to a small white house on the N side of the road. Turn left just E of house and go 125 yards to the fence and the station, on the state boundary line. This is a second-order station.

OBJECT	DISTANCE	DIRECTION
WHARTON		0°00'00"0
R.M. 2	201.00 feet	40 43 07.2
Azimuth mark No.3 V.G.	0.25 mile	138 09 52.45
R.M. 1	113.08 feet	358 26 14.0

Height of light above station mark - 27 meters.
Height of telescope above station mark - 23 meters.

(R.L.S.,1943)--Recovered as described by J.B.,Jr., in 1934 except that reference mark 2 is SW of the station, 1 foot S of garden fence corner, 1 foot W of fence, and 50 paces NE of the road.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: LAWRENCE (BOUNDARY MONUMENT 66)
ESTABLISHED BY: J. B. Jr., YEAR: 1934 STATE: DELAWARE - MARYLAND
RECOVERED BY: R. W. Tomlinson YEAR: 1961 COUNTY: Cecil - New Castle

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
WHARTON 1934				0 00 ' 00.0"
Reference Mark 2	SW	201.02	61.274	40 41 21.5
Azimuth Mark	W	Approx. 0.25 mile		94 38 46.5
Reference Mark 1	S	113.07	34.465	358 25 51.3

The station mark, reference marks 1 and 2 and the azimuth mark (reference mark 3) were recovered as described and found in good condition. The distance to reference marks 1 and 2 checked with the previous data. The direction to reference mark 2 checked with the previous data. A difference of 1 minute and 45.7 seconds was noted to reference mark 1 was noted on this date. The azimuth mark (reference mark 3) being obstructed by a building was no more useable. The mark was destroyed on this date and a new azimuth mark was established.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LAWRENCE BDRY MON 66 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1934 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 25' 02.1562"	ELEVATION:	22.6 METERS
GEODETIC LONGITUDE:	75 46 12.5065		73 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) AT ANGLE*
DE	0700	400,130.70	516,357.99	- 0° 13' 28"
MD	1900	1,147,468.65	579,191.66	+ 0 46 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) α FORMULA NEGLECTING THE SECOND TERM.

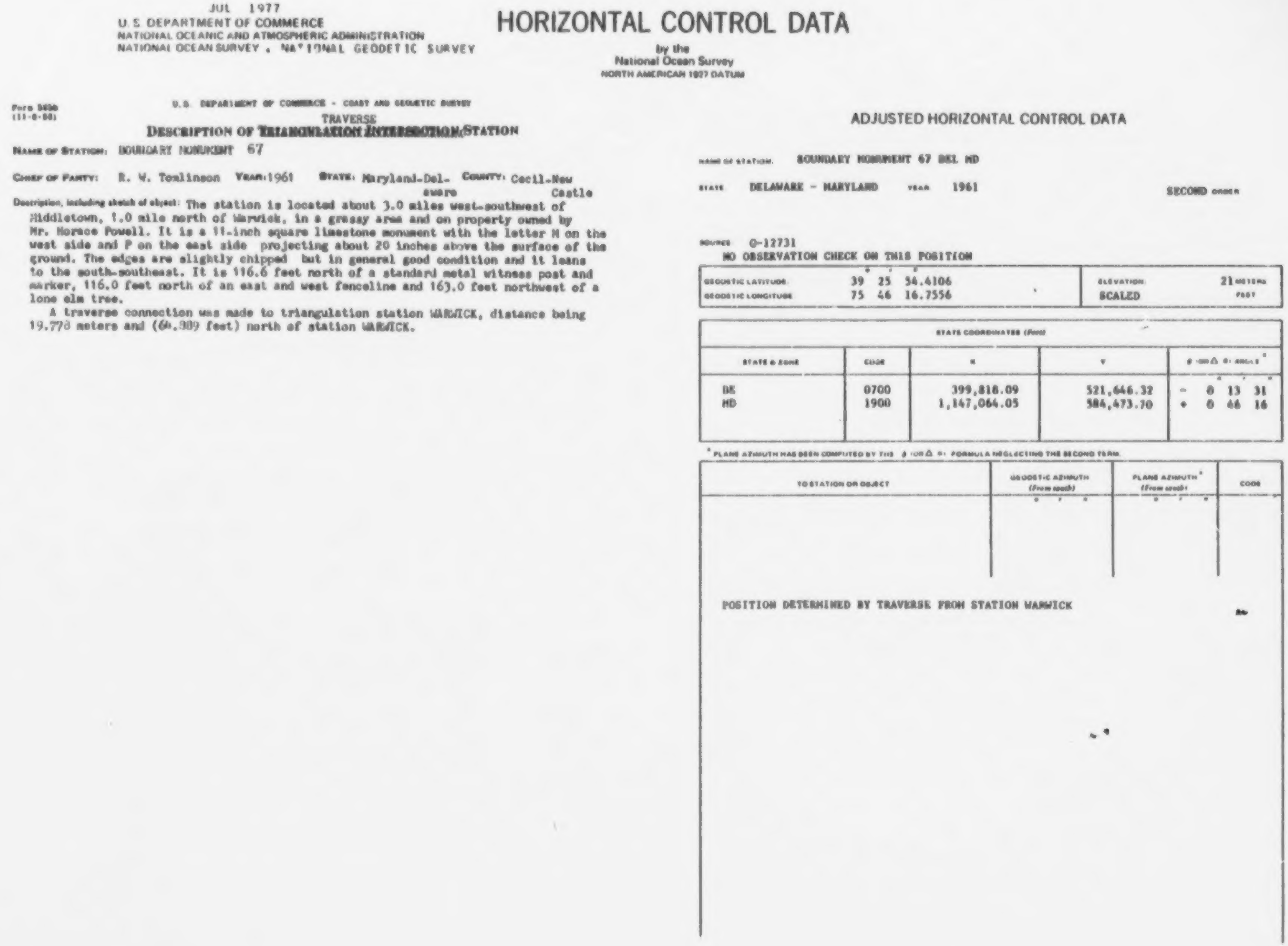
TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK 1961	91° 03' 39.4"	91° 17' 07"	0700
AZ MK 1961	91 03 39.4	90 17 21	1900
AZ MK RM 3 1934	134 34 44.9	134 48 13	0700
AZ MK RM 3 1934	134 34 44.9	133 48 26	1900

To reach the azimuth mark from the station; go south on the track timber road for 0.15 mile to the blacktop road. Turn right and go west on the blacktop road for 0.14 mile to a 36-inch maple tree, a standard metal witness post and marker and the mark on the left southwest side of the blacktop road.

The azimuth mark, a standard disk stamped LAWRENCE 1934, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 14.9 feet southwest of the centerline of a blacktop road, 10.6 feet southeast of a 36-inch maple tree and 1.6 feet northeast of a standard metal witness post and marker. Note 36 a.

The station is located about 8.0 miles southeast of Chesapeak City, Maryland and 0.25 mile east of Warwick, Maryland and on property owned by Mr. Lawrence. It is about 125 yards northeast of a blacktop road, 33.0 feet south of a fence corner and 1.0 foot east of a fence line that parallels the State Line.

The stone is in an upright position and in good condition. Triangulation disc of the U. S. Coast and Geodetic Survey is in the top and center of the stone. Marked with M and P. The stem of the P is broken perhaps in an attempt to convert P to D. It is a 12 X 12 inch stone projecting about 30 inches above the surface of the ground.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 67

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 3.0 miles west-southwest of Middletown, 1.0 mile north of Warwick, in a grassy area and on property owned by Mr. Horace Powell. It is a 11-inch square limestone monument with the letter M on the west side and P on the east side projecting about 20 inches above the surface of the ground. The edges are slightly chipped but in general good condition and it leans to the south-southeast. It is 116.6 feet north of a standard metal witness post and marker, 116.0 feet north of an east and west fenceline and 163.0 feet northwest of a lone elm tree.

A traverse connection was made to triangulation station WARWICK, distance being 19.778 meters and (64.889 feet) north of station WARWICK.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 67 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

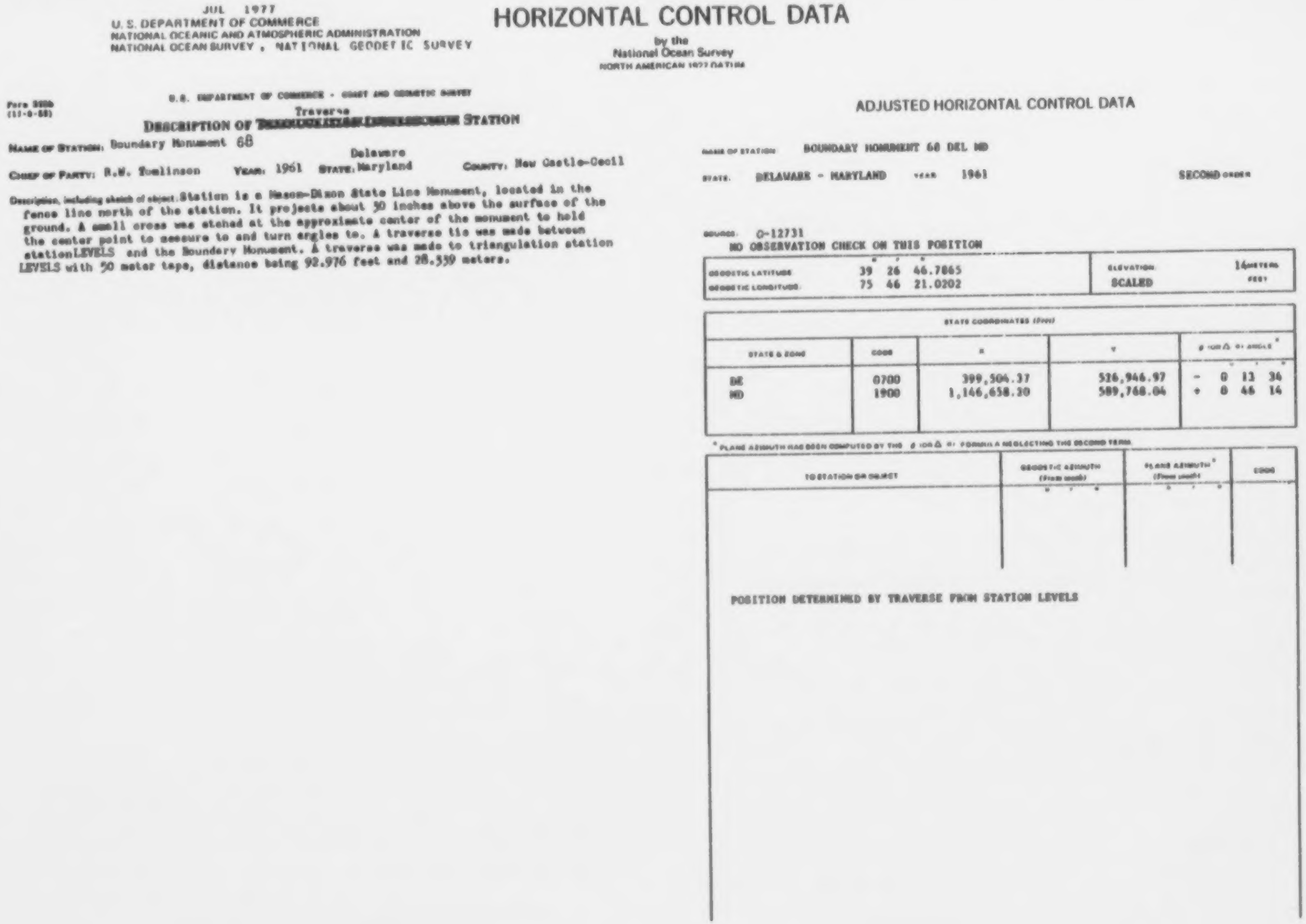
	° ′ ″		
GEODETIC LATITUDE	39 25 54.4106	ELEVATION:	21 METERS
GEODETIC LONGITUDE	75 46 16.7556	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	399,818.09	521,646.32	− 0 13 31
MD	1900	1,147,064.05	584,473.70	+ 0 46 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WARWICK



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF Traverse ~~[illegible]~~ **STATION**

Name of Station: Boundary Monument 68

Chief of Party: R.W. Tomlinson **Year:** 1961 **State:** Delaware Maryland **County:** New Castle-Cecil

Description, including sketch of object: Station is a Mason-Dixon State Line Monument, located in the fence line north of the station. It projects about 30 inches above the surface of the ground. A small cross was etched at the approximate center of the monument to hold the center point to measure to and turn angles to. A traverse tie was made between stationLEVELS and the Boundary Monument. A traverse was made to triangulation station LEVSLS with 50 meter tape, distance being 92.976 feet and 28.339 meters.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 68 DEL MD

STATE: DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE: Q-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	26	46.7865	ELEVATION	14 METERS
GEODETIC LONGITUDE	75	46	21.0202	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) angle*
DE	0700	399,504.37	526,946.97	- 0 13 36
MD	1900	1,146,658.30	589,768.04	+ 0 46 14

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LEVELS

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525D
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

Name of Station: BOUNDARY MONUMENT 69

Chief of Party: R.J.Tomlinson Year: 1961 State: Maryland-Del. County: Cecil-New Castle

Description, including sketch of object: The station is located about 3.0 miles north of Warwick, Maryland, 3.0 miles northwest of Middletown, Delaware, 47.0 feet north of the centerline of a woods road and 25.0 feet east of an 18-inch triangular blazed pine tree.

A traverse connection was made to triangulation station CARTER, distance being 49,087 feet and 14,962 meters south-southeast of station CARTER. The monument is a 12-inch square stone monument with the letter M and P inscriber on the west and east side, projecting about 30 inches above the surface of the ground and leans slightly to the southwest.

ADJUSTED HORIZONTAL CONTROL DATA

Name of station: BOUNDARY MONUMENT 69 DEL MD

State: DELAWARE - MARYLAND Year: 1961 SECOND order

Source: G-12731
NO OBSERVATION CHECK ON THIS POSITION

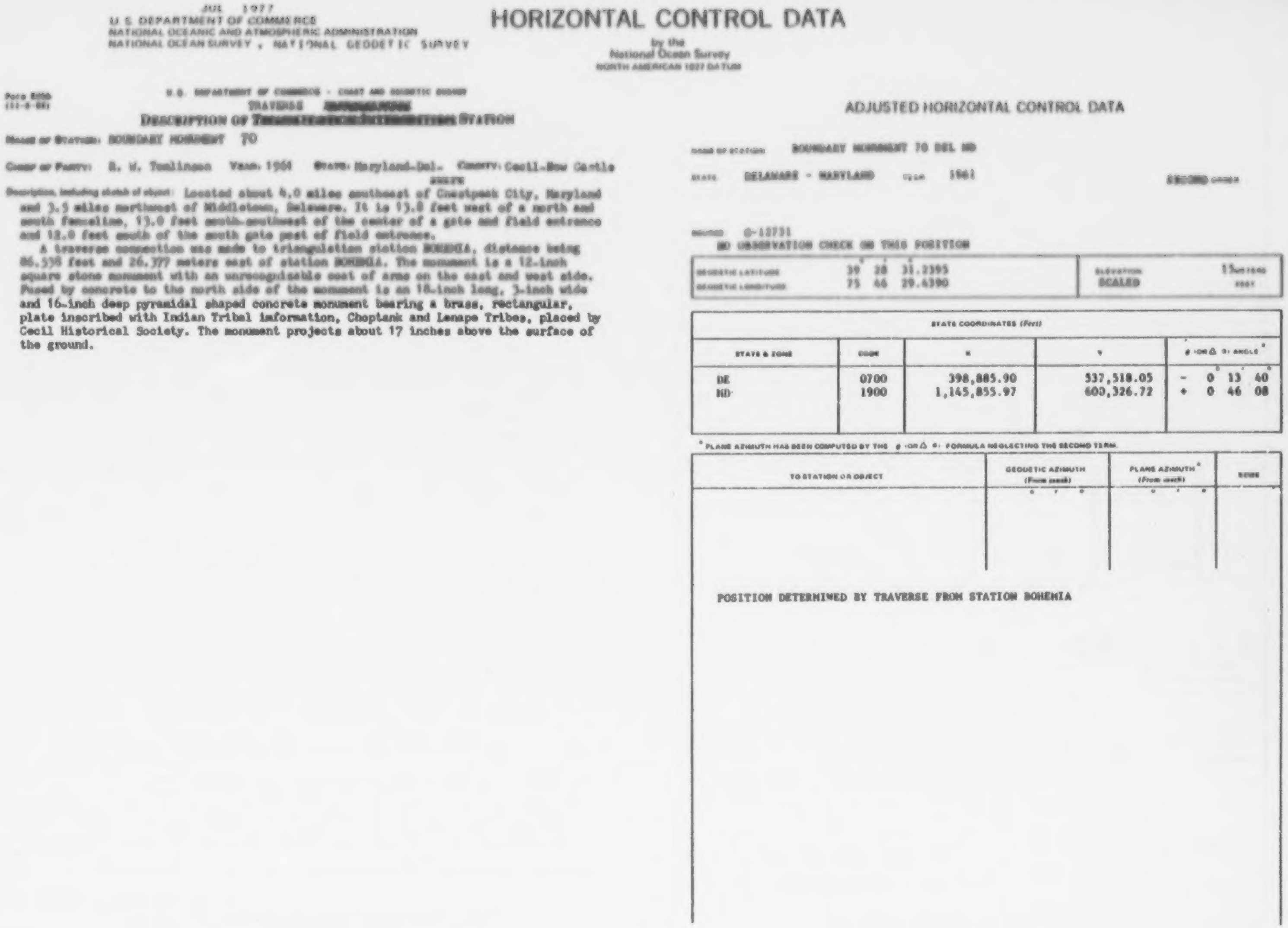
Geodetic latitude	39° 27′ 38.9338″	Elevation	6 meters
Geodetic longitude	75 46 25.2272	SCALED	feet

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δα) or angle*
DE MD	0700 1900	399,195.23 1,146,257.29	532,226.51 395,041.38	- 0° 13′ 37″ + 0 46 11

* Plane azimuth has been computed by the θ (or Δα) formula neglecting the second term.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION CARTER



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-60)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
TRAVERSE [illegible]
DESCRIPTION OF [illegible] STATION

Name of Station: BOUNDARY MONUMENT 70

Chief of Party: R. W. Tomlinson Year: 1964 State: Maryland-Del. County: Cecil-New Castle

Description, including sketch of object: Located about 4.0 miles southeast of Chesapeake City, Maryland and 3.5 miles northwest of Middletown, Delaware. It is 13.8 feet west of a north and south fenceline, 13.0 feet south-southeast of the center of a gate and field entrance and 12.0 feet south of the south gate post of field entrance.

A traverse connection was made to triangulation station BOHEMIA, distance being 86,538 feet and 26,377 meters east of station BOHEMIA. The monument is a 12-inch square stone monument with an unrecognizable coat of arms on the east and west side. Fused by concrete to the north side of the monument is an 18-inch long, 3-inch wide and 16-inch deep pyramidal shaped concrete monument bearing a brass, rectangular, plate inscribed with Indian Tribal information, Choptank and Lenape Tribes, placed by Cecil Historical Society. The monument projects about 17 inches above the surface of the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 70 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

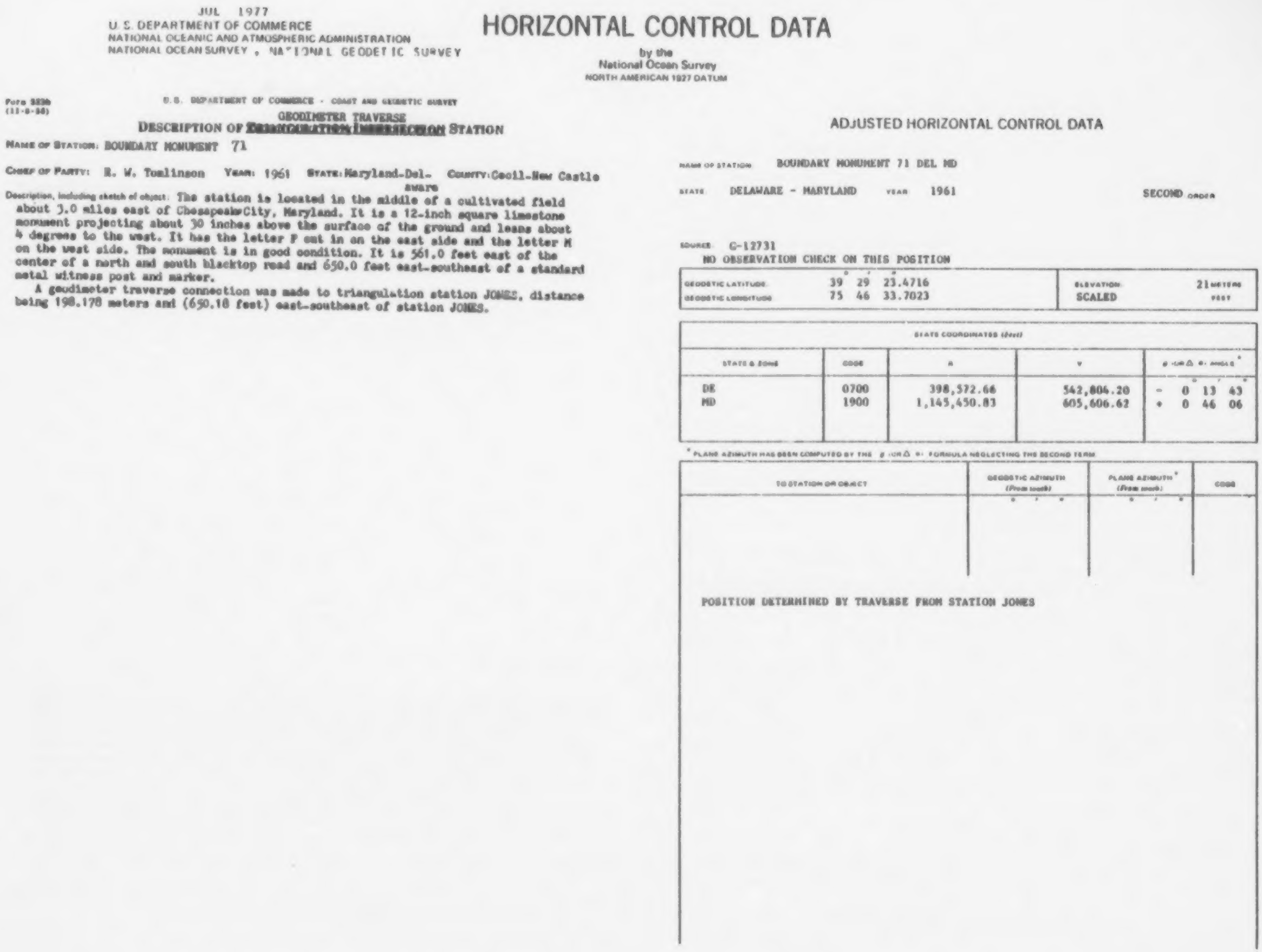
GEODETIC LATITUDE	39° 28′ 31.2395″	ELEVATION	15 METERS
GEODETIC LONGITUDE	75 46 29.4390	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	398,885.90	537,518.05	- 0° 13′ 40″
MD	1900	1,145,855.97	600,326.72	+ 0 46 08

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	[illegible]

POSITION DETERMINED BY TRAVERSE FROM STATION BOHEMIA



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

GEODIMETER TRAVERSE
DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 71

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Cecil-New Castle

Description, including sketch of object: The station is located in the middle of a cultivated field about 3.0 miles east of Chesapeake City, Maryland. It is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground and leans about 4 degrees to the west. It has the letter P cut in on the east side and the letter M on the west side. The monument is in good condition. It is 561.0 feet east of the center of a north and south blacktop road and 650.0 feet east-southeast of a standard metal witness post and marker.

A geodimeter traverse connection was made to triangulation station JONES, distance being 198.178 meters and (650.18 feet) east-southeast of station JONES.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 71 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 29 23.4716	ELEVATION	21 METERS
GEODETIC LONGITUDE	75 46 33.7023	SCALED	FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	x	y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	398,572.66	542,804.20	- 0 13 43
MD	1900	1,145,450.83	605,606.62	+ 0 46 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION JONES

MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-74)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 72
STATE: Maryland-Delaware
COUNTY: Cecil-New Castle
NEAREST TOWN: Chesapeake City
QUADRANGLE: Q390752
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Foust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS

SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
OBJECT	BEARING	DISTANCE		DIRECTIONS
		FEET	METERS	° ' "

Detailed description

The old boundary monument was found in the upright position on the north side of a barn owned by Mr. Charles Erwin. Mr. Erwin stated that he had found the old monument in the prone position in a swamp on his farm and had set it in the present position.

The computed position of the boundary was found to be in a cultivated field. A new point was selected to the north and out of any danger of being disturbed. The old monument was then reset at the selected location on the boundary. It is in a clockwise direction of 35°42'44.9" from the azimuth mark at Triangulation Station FRED 1961 and at a distance of 402.840 meters.

The mark is located 5 miles northwest of Middletown, Delaware. It is 2 1/2 miles southeast of Chesapeake City,Maryland, and about 0.15 mile east of a paved north-south road. The property is owned by Mr. Charles Erwin, Box 268, Chesapeake City, Maryland.

To reach the station from the main intersection in South Chesapeake City, go east on a paved road along the south side of a canal to a T-intersection, bear right and continue easterly on a paved road for 1.4 mile to a crossroad, turn right and go southerly for 1.0 mile to Mr. Erwin's farm on the left and the monument behind the most southerly building.

The monument is a 12-inch square limestone post with a 1-inch cross cut in the apex of the post. It is set in a 2 feet square concrete base consisting of 11 cubic feet of cement. The old post projects 18-inches. There is no sub-surface marker at this point. It is 125 feet east of the southwest corner of the most southerly barn, 15.7 feet west of the southeast corner of the most southerly barn, 2.5 feet south of the south side of the most southerly barn of Mr. Erwins' farm.

For additional information, see description for station FRED 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 72 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ' "	
GEODETIC LATITUDE	39 30 24.31805	ELEVATION: 21 METERS
GEODETIC LONGITUDE	75 46 38.63499	NO CHECK FEET

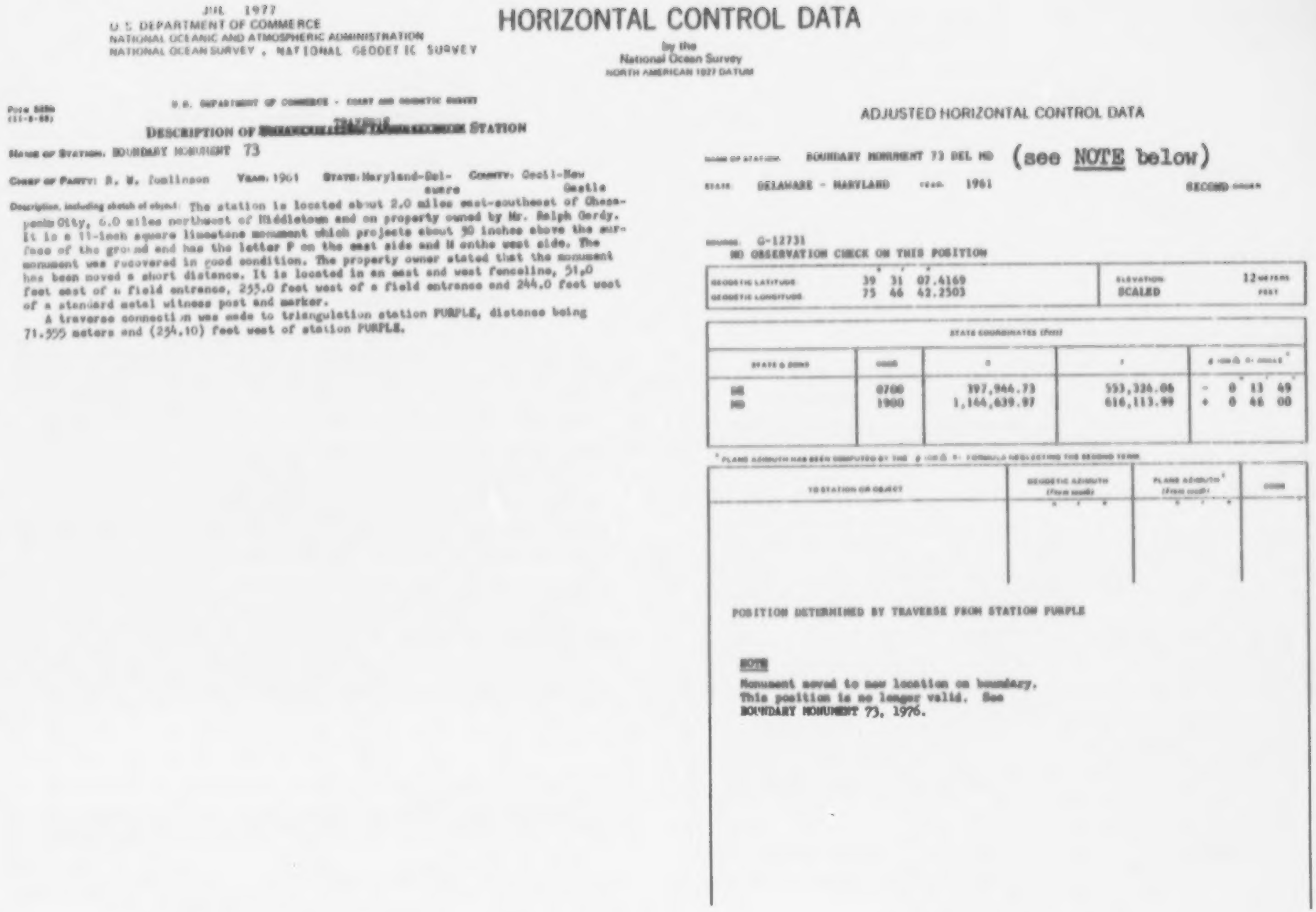
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
MD	1900	1,144,981.68	611,757.38	+ 0 46 02
DE	0700	398,210.59	548,962.18	- 0 13 46

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ' "	° ' "	

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION FRED



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525a
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 73

Chief of Party: R. W. Tomlinson   Year: 1961   State: Maryland-Delaware   County: Cecil-New Castle

Description, including sketch of object: The station is located about 2.0 miles east-southeast of Chesapeake City, 6.0 miles northwest of Middletown and on property owned by Mr. Ralph Gerdy. It is a 11-inch square limestone monument which projects about 30 inches above the surface of the ground and has the letter P on the east side and M onthe west side. The monument was recovered in good condition. The property owner stated that the monument has been moved a short distance. It is located in an east and west fenceline, 51.0 feet east of a field entrance, 255.0 feet west of a field entrance and 244.0 feet west of a standard metal witness post and marker.

A traverse connection was made to triangulation station PURPLE, distance being 71.555 meters and (234.10) feet west of station PURPLE.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 73 DEL MD (see NOTE below)

STATE: DELAWARE - MARYLAND   YEAR: 1961   SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	31	07.4169	ELEVATION	12 METERS
GEODETIC LONGITUDE	75	46	42.2503	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ [illegible] ANGLE[a]
DE	0700	397,966.73	553,326.06	− 0 13 49
MD	1900	1,164,639.97	616,113.99	+ 0 46 00

[a] PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH[a] (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PURPLE

NOTE

Monument moved to new location on boundary.
This position is no longer valid. See
BOUNDARY MONUMENT 73, 1976.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 73
STATE: Delaware Maryland
COUNTY: New Castle Cecil
NEAREST TOWN: Chesapeake City
QUADRANGLE NO.: Q390754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. † HEIGHT OF LIGHT ABOVE STATION MARK METERS.				
	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

Detailed description:

The old Boundary Monument number 73 was found in the prone position. The computed position of the boundary was found to be in a cultivated field, therefore the old boundary monument was reset slightly to the north and out of danger of farm operations.

The station is located about 12 miles south of Newark, 2 miles southeast of Chesapeake City, and about 1 mile south of the C & D Canal. The property is owned by Mr. Clever Carter and Mr. Carter lives just north of the station.

To reach from the post office in Chesapeake City, go east and northeast on State Highway 286 for 0.5 mile to a T-intersection. Turn right and go east on State Highway 286 for 1.3 mile to a crossroads. Continue east on State Highway 286 for 0.3 mile to Mr. Clever's home on the right. Turn right and go south crossing a field and passing Mr. Clever's home for 0.2 mile to the station in a fence line.

The surface mark is a 12-inch square limestone post set in a mass of concrete projecting 18-inches. It has a "P" on the east side and an "M" on the west side with a 1/2 inch cross cut in the apex of the post marking the point intersected. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped M-S NO. 73 1976, set in the top of an 8-inch mass of concrete which is 42-inches below the surface. They are 100 yards south of Mr. Carter's house, 150 feet southwest of a wooded area in the south part of a field, 4 feet south of the south edge of the field, 2 feet north of a wooded fence line, and 2 feet west of a witness post.

For additional information, see description for station PURPLE 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 73 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	
GEODETIC LATITUDE:	39 31 07.40998	ELEVATION: 12 METERS
GEODETIC LONGITUDE:	75 46 42.12996	NO CHECK FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,144,649.41	616,113.42	+ 0 46 00
DE	0700	397,956.16	553,323.32	- 0 13 49

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION PURPLE

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE

DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 74

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located along the west side of a north and south fenceline, near the southeast corner of the Bethel Cemetery, about 2.8 miles west of State Highway 896, 1.6 miles east of Chesapeak City and about 20 yards south of the Chesapeake and Delaware Canal. It is a 11-inch square limestone projecting about 30 inches above the surface of the ground, bearing the coat of arms, with the letter M on the west side and P on the east side. It is chipped and leans to the east-southeast. It is at the south end of an evergreen hedge row and the north end of a woven wire fence.

A traverse connection was made to triangulation station BETHEL RM NO 3, distance being 50.326 meters and (165.11 feet)north of station BETHEL RM NO 3.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 74 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

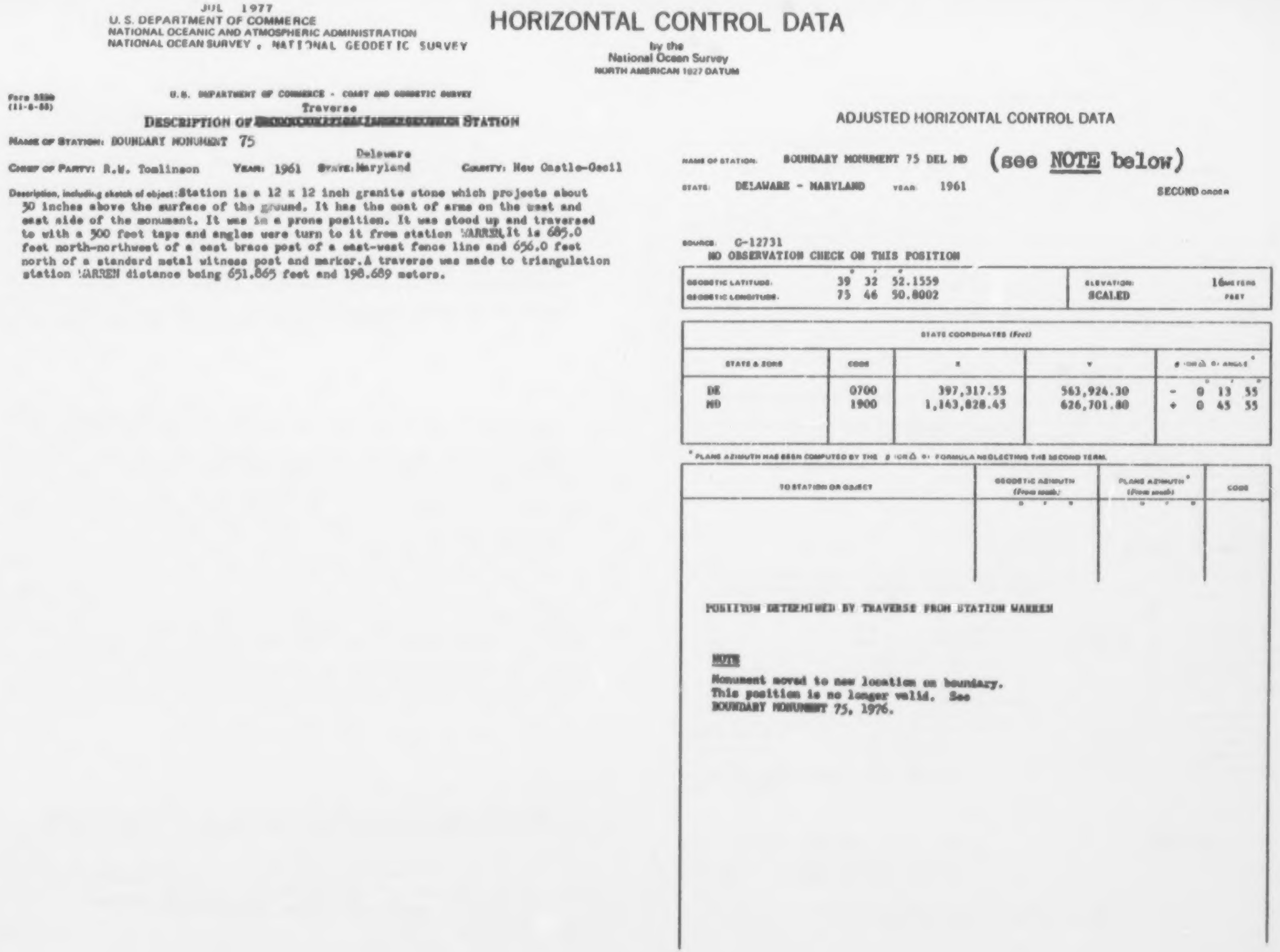
	°	′	″			
GEODETIC LATITUDE:	39	32	00.0525	ELEVATION:	13	METERS
GEODETIC LONGITUDE:	75	46	46.4010	SCALED		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	397,640.91	558,651.05	- 0 13 52
MD	1900	1,144,243.52	621,434.93	+ 0 45 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION BETHEL RM 3



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 526
(11-6-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

Traverse

DESCRIPTION OF ~~[illegible]~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 75

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 STATE: Delaware Maryland COUNTY: New Castle-Cecil

Description, including sketch of object: Station is a 12 x 12 inch granite stone which projects about 30 inches above the surface of the ground. It has the coat of arms on the west and east side of the monument. It was in a prone position. It was stood up and traversed to with a 300 foot tape and angles were turn to it from station WARREN. It is 685.0 feet north-northwest of a east brace post of a east-west fence line and 656.0 feet north of a standard metal witness post and marker. A traverse was made to triangulation station WARREN distance being 651.865 feet and 198.689 meters.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 75 DEL MD (see NOTE below)

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	39 32 52.1559	ELEVATION:	16 METERS
GEODETIC LONGITUDE:	75 46 50.8002	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	397,317.55	563,924.30	- 0° 13′ 55″
MD	1900	1,163,828.45	626,701.80	+ 0 45 55

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION WARREN

NOTE

Monument moved to new location on boundary.
This position is no longer valid. See
BOUNDARY MONUMENT 75, 1976.

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 75
STATE: Maryland Delaware
COUNTY: Cecil New Castle
NEAREST TOWN: Chesapeake City
QUADRANGLE NO.: Q390754
CHIEF OF PARTY: C.L. Novak
YEAR: 1977
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS

SURFACE-STATION MARK, UNDERGROUND-STATION MARK

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

Detailed description

The monument is located 5 1/2 miles south of Glasgow, Delaware, 2 miles northeast of Chesapeake City, Maryland, and 1/2 mile north of the C & D Canal, and on property owned by the John Losten Dairy, Inc., Route 2, Chesapeake City, Maryland.

To reach from the center of the small town of North Chesapeake City, go east on State Highway 285 to a side road left. Turn left, go nortn on a paved road for 0.35 mile to a highline crossing. Turn left, go west across a cultivated field for 0.35 mile to triangulation station WARREN 1961 and the monument just west of the station.

The surface mark is a 12-inch square limestone monument with the Penn Coat of Arms on the east and the Crown of Calvert on the west. The old monument is set in a 7 cubic foot concrete base and projects 18-inches. Directly below the surface monument, a standard National Geodetic Survey Triangulation Station Disk is set. It is set in a 10-inch round concrete monument consisting of 1 1/2 cubic foot of concrete. It is 36-inches below the surface of the ground, and is stamped N-S NO. 75 1976. It is set on a low rolling hill about 0.35 mile west of a paved road, 0.35 mile north of State Highway 285, 66 feet northwest of a witness post, and set inside of a 8 foot square which is made up of four steel posts.

For additional information, see the description for triangulation station WARREN 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 75 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	32	45.90470	ELEVATION: NO CHECK	17 METERS
GEODETIC LONGITUDE	75	46	50.10640		FEET

STATE COORDINATES (Feet)

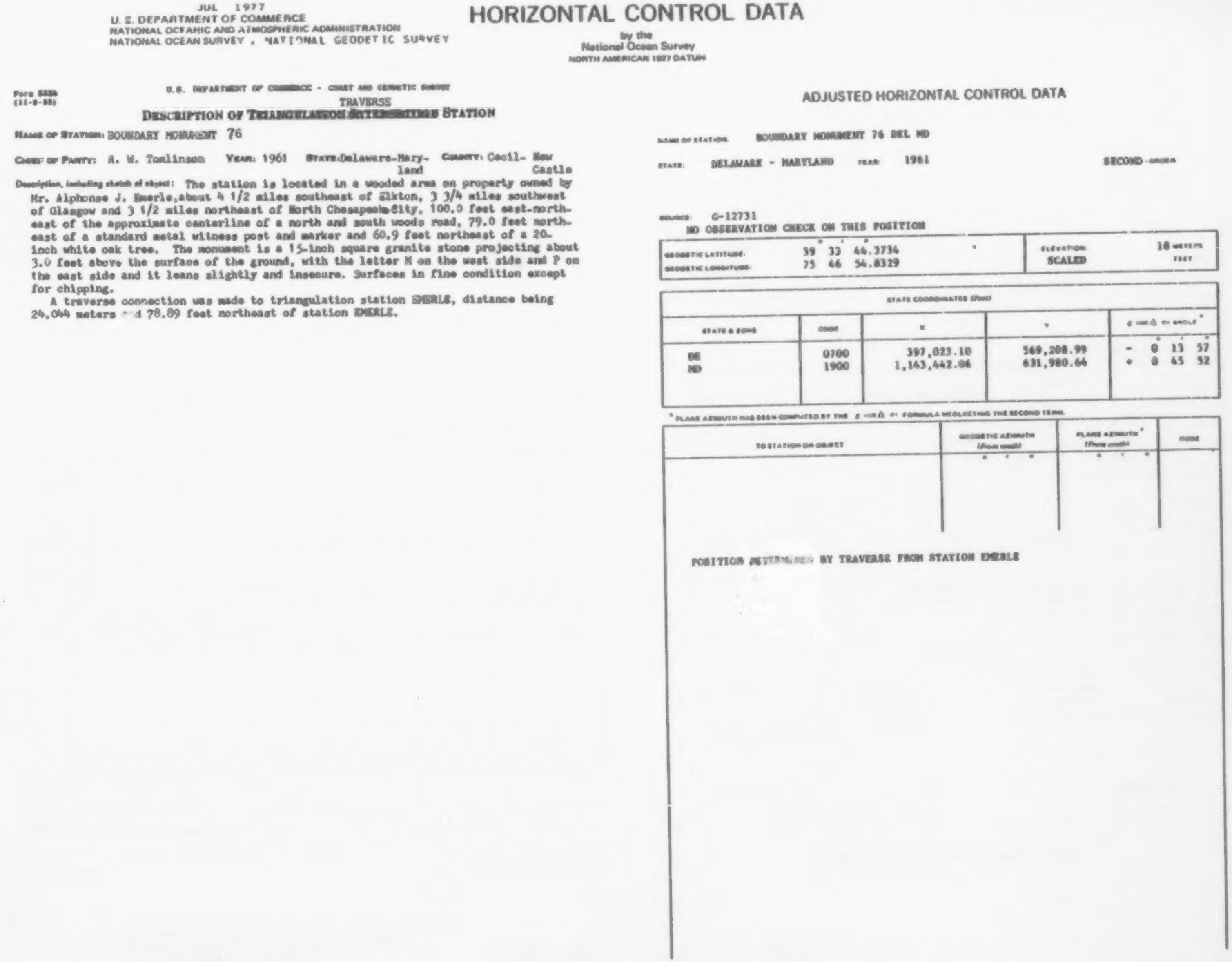
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,143,891.24	626,070.07	+ 0 45 55
DE	0700	397,369.35	563,291.58	- 0 13 54

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF FEB 1977

POSITION DETERMINED BY TRAVERSE FROM STATION WARREN



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-6-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION~~ ~~INTERSECTION~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 76

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Delaware-Maryland **County:** Cecil- New Castle

Description, including sketch of object: The station is located in a wooded area on property owned by Mr. Alphonse J. Emerle, about 4 1/2 miles southeast of Elkton, 3 3/4 miles southwest of Glasgow and 3 1/2 miles northeast of North Chesapeake City, 100.0 feet east-northeast of the approximate centerline of a north and south woods road, 79.0 feet northeast of a standard metal witness post and marker and 60.9 feet northeast of a 20-inch white oak tree. The monument is a 15-inch square granite stone projecting about 3.0 feet above the surface of the ground, with the letter M on the west side and P on the east side and it leans slightly and insecure. Surfaces in fine condition except for chipping.

A traverse connection was made to triangulation station EMERLE, distance being 24.044 meters and 78.89 feet northeast of station EMERLE.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 76 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND - ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

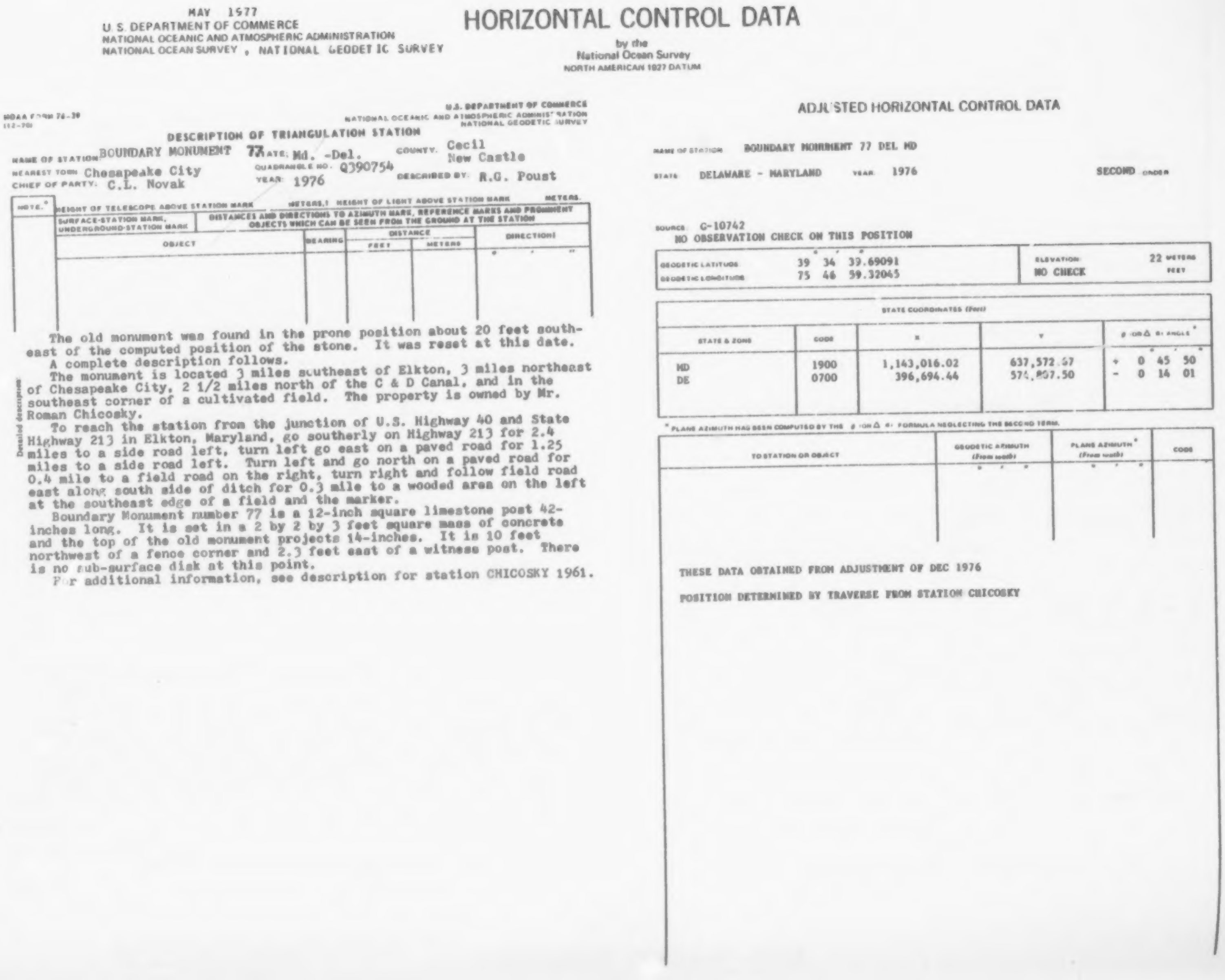
	° ′ ″		
GEODETIC LATITUDE:	39 33 44.3734	ELEVATION: SCALED	18 METERS
GEODETIC LONGITUDE:	75 46 54.8329		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE MD	0700 1900	397,023.10 1,143,442.06	569,208.99 631,980.64	- 0 13 57 + 0 45 52

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION EMERLE



MAY 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 77
STATE: Md. -Del.
COUNTY: Cecil New Castle
NEAREST TOWN: Chesapeake City
QUADRANGLE NO.: Q390754
DESCRIBED BY: R.G. Poust
CHIEF OF PARTY: C.L. Novak
YEAR: 1976

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION ° ′ ″

Detailed description

The old monument was found in the prone position about 20 feet southeast of the computed position of the stone. It was reset at this date.

A complete description follows.

The monument is located 3 miles southeast of Elkton, 3 miles northeast of Chesapeake City, 2 1/2 miles north of the C & D Canal, and in the southeast corner of a cultivated field. The property is owned by Mr. Roman Chicosky.

To reach the station from the junction of U.S. Highway 40 and State Highway 213 in Elkton, Maryland, go southerly on Highway 213 for 2.4 miles to a side road left, turn left go east on a paved road for 1.25 miles to a side road left. Turn left and go north on a paved road for 0.4 mile to a field road on the right, turn right and follow field road east along south side of ditch for 0.3 mile to a wooded area on the left at the southeast edge of a field and the marker.

Boundary Monument number 77 is a 12-inch square limestone post 42-inches long. It is set in a 2 by 2 by 3 feet square mass of concrete and the top of the old monument projects 14-inches. It is 10 feet northwest of a fence corner and 2.3 feet east of a witness post. There is no sub-surface disk at this point.

For additional information, see description for station CHICOSKY 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 77 DEL MD
STATE: DELAWARE - MARYLAND
YEAR: 1976
SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	
GEODETIC LATITUDE	39 34 39.69091	ELEVATION: 22 METERS
GEODETIC LONGITUDE	75 46 59.32045	NO CHECK FEET

STATE COORDINATES (Feet)

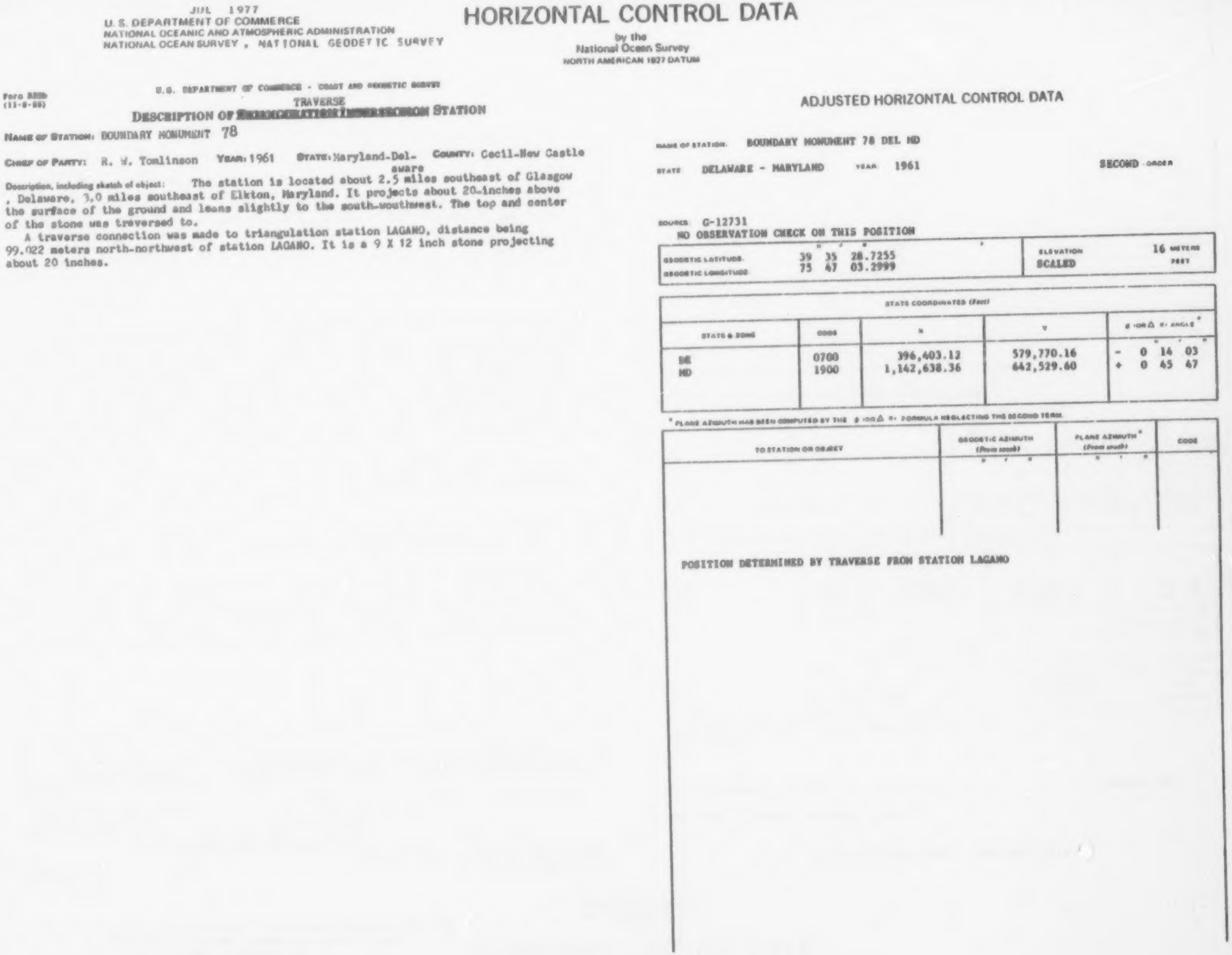
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
MD	1900	1,143,016.02	637,572.57	+ 0 45 50
DE	0700	396,694.44	574,807.50	- 0 14 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION CHICOSKY



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ TRAVERSE STATION

Name of Station: BOUNDARY MONUMENT 78

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Cecil-New Castle

Description, including sketch of object: The station is located about 2.5 miles southeast of Glasgow, Delaware, 3.0 miles southeast of Elkton, Maryland. It projects about 20-inches above the surface of the ground and leans slightly to the south-southwest. The top and center of the stone was traversed to.

A traverse connection was made to triangulation station LAGANO, distance being 99.022 meters north-northwest of station LAGANO. It is a 9 X 12 inch stone projecting about 20 inches.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 78 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE	39 35 28.7255	ELEVATION	16 METERS
GEODETIC LONGITUDE	75 47 03.2999	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE MD	0700 1900	396,403.12 1,142,638.36	579,770.16 642,529.60	− 0 14 03 + 0 45 47

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION LAGANO

MAY 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

NOAA FORM 76-39
(12-70)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 79
STATE: Delaware Maryland
COUNTY: New Castle Cecil
NEAREST TOWN: Glasgow
QUADRANGLE NO.: Q 390754
CHIEF OF PARTY: C.L. Novak
YEAR: 1976
DESCRIBED BY: R.G. Poust

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK METERS.† HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	SURFACE-STATION MARK, UNDERGROUND-STATION MARK	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTIONS ° ′ ″

A search was made for the old Boundary Monument number 79 and no evidence of it was found. It was reported destroyed during the construction of U.S. Highway 40. The point was replaced by a crown stone which was found at the Easton Historical Society. It was agreed by Maryland and Delaware that the old crown stone be set at this location. It is believed that the crown stone was originally the stone set at mile number 10.

The monument is located on the north sloping right-of-way of U.S. Highway 40 where it crosses the Maryland-Delaware boundary. It is 2 miles west of Glasgow, and 2 1/2 miles east of Elkton. It is on road right-of-way.

The location of this is adequate to reach.

To reach from the intersection of U.S. Highway 40 and State Highway 213 in the southwest part of Elkton, go east on U.S. Highway 40 for 2.4 miles to the point where the highway crosses the boundary and the monument on the left.

The surface monument is a defaced Maryland-Delaware Crown Stone. It has been grafted to a 12 by 12 concrete base. The base is set in an 18-inch square 24-inch long mass of concrete. The monument projects 1 foot. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped M-S NO. 79 1976, set in an 8-inch mass of concrete which is 36 inches below the surface. A 1-inch cut cross in the apex of the stone marks the point intersected. They are 60 feet east of a 12-inch poplar tree, 30 feet north of the center line of the west bound lane of U.S. Highway 40, and 2 feet south of a witness post.

For additional information, see the description for station GLASGOW 1961.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 79 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1976 SECOND ORDER

SOURCE: G-10742
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″	
GEODETIC LATITUDE	39 36 22.90688	ELEVATION 29 METERS
GEODETIC LONGITUDE	75 47 07.71056	NO CHECK FEET

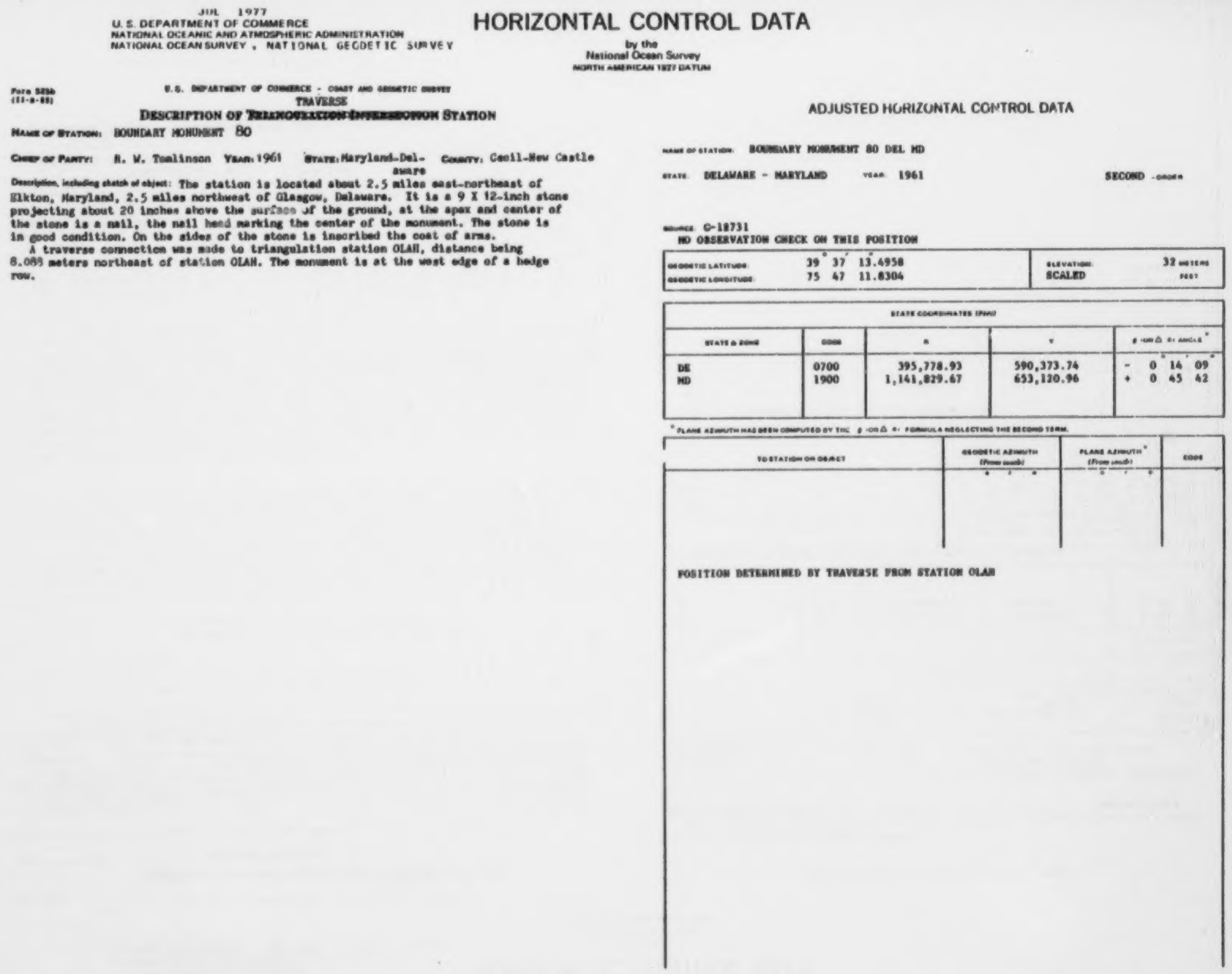
STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
MD	1900	1,142,220.15	648,006.85	+ 0 45 44
DE	0700	396,080.32	585,253.73	- 0 14 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

THESE DATA OBTAINED FROM ADJUSTMENT OF DEC 1976

POSITION DETERMINED BY TRAVERSE FROM STATION GLASGOW



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

Name of Station: BOUNDARY MONUMENT 80

Chief of Party: R. W. Tomlinson **Year:** 1961 **State:** Maryland-Delaware **County:** Cecil-New Castle

Description, including sketch of object: The station is located about 2.5 miles east-northeast of Elkton, Maryland, 2.5 miles northwest of Glasgow, Delaware. It is a 9 X 12-inch stone projecting about 20 inches above the surface of the ground, at the apex and center of the stone is a nail, the nail head marking the center of the monument. The stone is in good condition. On the sides of the stone is inscribed the coat of arms.

A traverse connection was made to triangulation station OLAH, distance being 8.085 meters northeast of station OLAH. The monument is at the west edge of a hedge row.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 80 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND -ORDER

SOURCE: G-18731
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	39° 37′ 13.4958″	ELEVATION:	32 METERS
GEODETIC LONGITUDE:	75 47 11.8304	SCALED	FEET

STATE COORDINATES (FEET)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	395,778.93	590,373.74	- 0° 14′ 09″
MD	1900	1,141,829.67	653,120.96	+ 0 45 42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION OLAH

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
(11-1-63)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF TRIANGULATION [illegible] STATION

NAME OF STATION: Boundary Monument 81

CHIEF OF PARTY: J.C.Ellerbe **YEAR:** 1958 **STATE:** Maryland **COUNTY:** Cecil

Description, including sketch of object:

The mark is about 4 miles SW of Newark, Delaware, about 3 miles NE of Elkton and near the Maryland-Delaware State Line.

The mark is 21 feet W of the center of road and 12 feet NNE of a large tree. It is a 12x12-inch stone monument projecting about 18 inches with the letter M on the west side and letter P on the east side.

A traverse connection was made to OTTS 1958.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 81 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1958 SECOND -ORDER

SOURCE: C-12731
NO OBSERVATION CHECK ON THIS POSITION

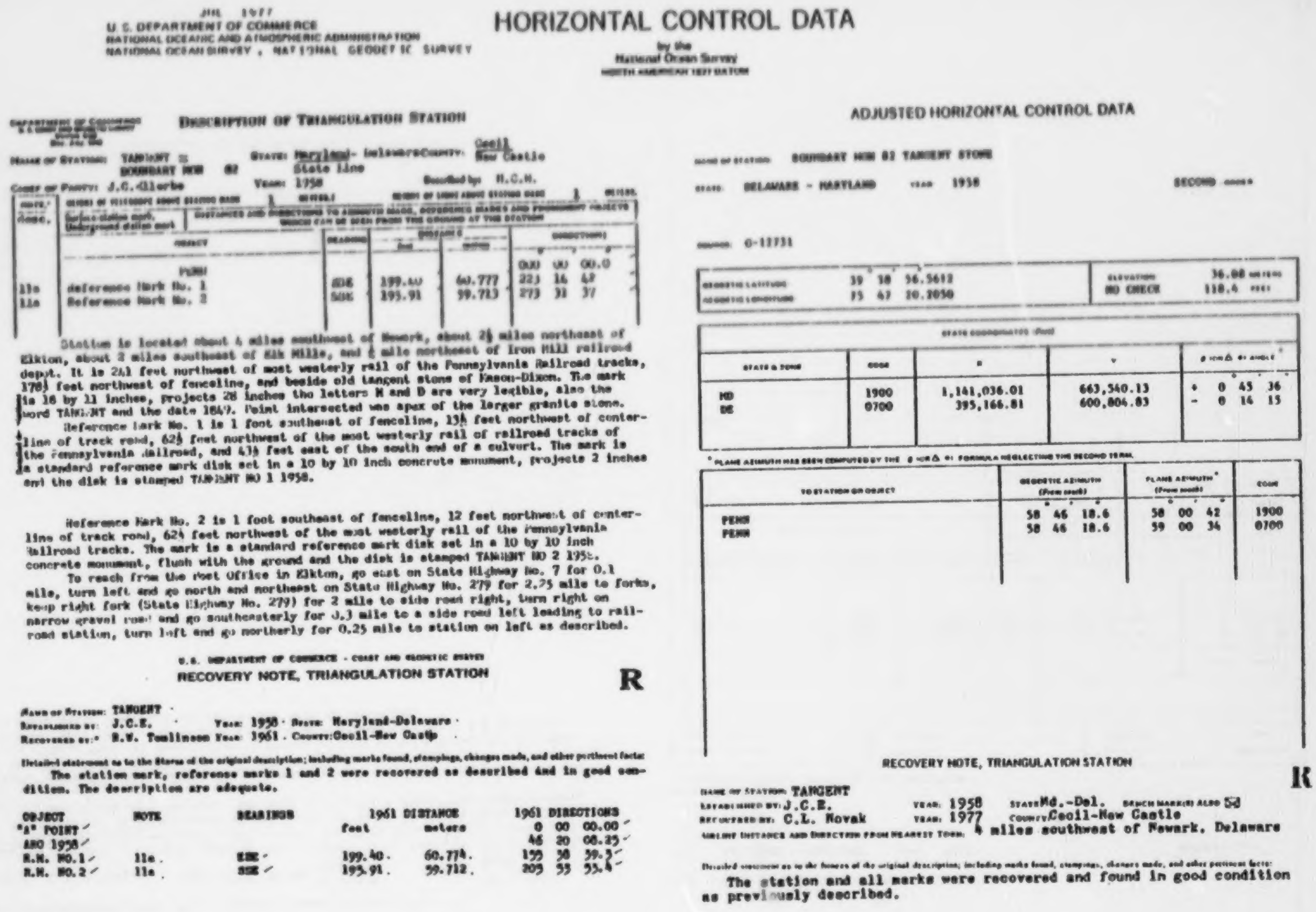
	°	′	″		
GEODETIC LATITUDE	39	38	05.8088	ELEVATION	53 METERS
GEODETIC LONGITUDE	75	47	16.0710	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE* ° ′ ″
MD DE	1900 0700	1,161,427.36 393,468.96	638,409.42 595,668.25	+ 0 45 39 - 0 16 12

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION OTTS



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: TANGENT 2 BOUNDARY MON 82
State: Maryland- Delaware
County: Cecil New Castle
State line
Chief of Party: J.C.Ellerbe
Year: 1958
Described by: H.C.H.

Note	Object	Bearing	Distance feet	Distance meters	Direction
	PENN				000 00 00.0
11a	Reference Mark No. 1	ESE	199.40	60.777	223 16 42
11a	Reference Mark No. 2	SSE	195.91	59.713	273 33 37

Station is located about 4 miles southwest of Newark, about 2½ miles northeast of Elkton, about 2 miles southeast of Elk Mills, and ½ mile northeast of Iron Hill railroad depot. It is 241 feet northwest of most westerly rail of the Pennsylvania Railroad tracks, 178½ feet northwest of fenceline, and beside old tangent stone of Mason-Dixon. The mark is 16 by 11 inches, projects 28 inches the letters M and D are very legible, also the word TANGENT and the date 1849. Point intersected was apex of the larger granite stone.

Reference Mark No. 1 is 1 foot southeast of fenceline, 13½ feet northwest of centerline of track road, 62½ feet northwest of the most westerly rail of railroad tracks of the Pennsylvania Railroad, and 43½ feet east of the south end of a culvert. The mark is a standard reference mark disk set in a 10 by 10 inch concrete monument, projects 2 inches and the disk is stamped TANGENT NO 1 1958.

Reference Mark No. 2 is 1 foot southeast of fenceline, 12 feet northwest of centerline of track road, 62½ feet northwest of the most westerly rail of the Pennsylvania Railroad tracks. The mark is a standard reference mark disk set in a 10 by 10 inch concrete monument, flush with the ground and the disk is stamped TANGENT NO 2 1958.

To reach from the Post Office in Elkton, go east on State Highway No. 7 for 0.1 mile, turn left and go north and northeast on State Highway No. 279 for 2.75 mile to forks, keep right fork (State Highway No. 279) for 2 mile to side road right, turn right on narrow gravel road and go southeasterly for 0.3 mile to a side road left leading to railroad station, turn left and go northerly for 0.25 mile to station on left as described.

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

Name of Station: TANGENT
Established by: J.C.E. Year: 1958 State: Maryland-Delaware
Recovered by: R.V. Tomlinson Year: 1961 County: Cecil-New Castle

Detailed statement as to the status of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station mark, reference marks 1 and 2 were recovered as described and in good condition. The description are adequate.

OBJECT	NOTE	BEARINGS	1961 DISTANCE feet	1961 DISTANCE meters	1961 DIRECTIONS
"A" POINT					0 00 00.00
ABO 1958					46 20 08.25
R.M. NO.1	11e	ESE	199.40	60.774	155 38 59.5
R.M. NO.2	11e	SSE	195.91	59.712	205 55 55.4

ADJUSTED HORIZONTAL CONTROL DATA

Name of station: BOUNDARY MON 82 TANGENT STONE
State: DELAWARE - MARYLAND Year: 1958 SECOND order

Source: G-11731

Geodetic latitude	39 38 56.5612	Elevation	36.08 meters
Geodetic longitude	75 47 20.2050	NO CHECK	118.4 feet

State coordinates (feet)

State & zone	Code	X	Y	θ (or Δα) angle
MD	1900	1,141,036.01	663,540.13	+ 0 45 36
DE	0700	395,166.81	600,804.83	- 0 16 15

* Plane azimuth has been computed by the θ (or Δα) formula neglecting the second term.

To station or object	Geodetic azimuth (From south)	Plane azimuth* (From south)	Code
PENN	58 46 18.6	58 00 42	1900
PENN	58 46 18.6	59 00 34	0700

RECOVERY NOTE, TRIANGULATION STATION

R

Name of Station: TANGENT
Established by: J.C.E. Year: 1958 State: Md.-Del. Bench mark(s) also 58
Recovered by: C.L. Novak Year: 1977 County: Cecil-New Castle
Airline distance and direction from nearest town: 4 miles southwest of Newark, Delaware

Detailed statement as to the status of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station and all marks were recovered and found in good condition as previously described.

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION ~~INTERSECTION~~ TRAVERSE STATION

Name of Station: Maryland-Delaware State Boundary Marker ARC Stone No. 1

Chief of Party: J.C. Ellerbe **Year:** 1958 **State:** Delaware / Maryland **County:** New Castle / Cecil

Description, including sketch of object: Station is located about 3 miles north northeast of Elkton, Md. and about 2½ miles southwest of Newark, Del. and on the State Line. Station is 24 feet west of a utility pole, 16.5 feet south of the center of road, 14 feet west of Historic Marker and 2.5 feet north of fenceline. The mark is a granite stone that projects about 18 inches.

A traverse connection was made to the approximate center of a hole in the top of the stone and the distance is 198.033 meters or 649.71 feet north of ARC.

To reach station from the Post Office in Newark go west on Main Street for 0.4 mile to forks and railroad tracks. Take left fork and go southwesterly on Elkton Road for 2.4 miles to the State Line, and station on the left as described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MARYLAND DEL BDRY ARC STONE 1

STATE: DELAWARE - MARYLAND YEAR: 1958 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	39° 39′ 14.8262″	ELEVATION:	38 METERS
GEODETIC LONGITUDE:	75 47 21.2526	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
MD	1900	1,140,929.56	665,387.06	+ 0° 45′ 36″
DE	0700	395,092.53	602,653.27	- 0 14 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
ARC	6° 17′ 46.4″	5° 32′ 11″	1900
ARC	6 17 46.4	6 32 02	0700

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: Maryland-Del Bdy ARC STONE 2

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Delaware-Maryland COUNTY: Cecil-New Castle

Description, including sketch of object: The station is located about 2.5 miles southwest of Newark, Delaware, 2.0 miles east-southeast of Elk Mills, Maryland, on property of E. I. Dupont and Company, Incorporated, Stine Laboratories, 200.0 feet west of the centerline of a dim track road and 63.4 feet north of an east and west fenceline and north edge of a timberline and is inclosed by a pole fence.

A traverse connection was made to triangulation station BOUNDARY MONUMENT 83, distance being 400.054 meters south of station BOUNDARY MONUMENT 83. It is Arc Stone No. 2 1765, an unmarked stone. It has been broken off at ground level and now sets on old base or what is believed to be old base at the original lacation. It is a 7 X 12 inch stone projecting about 28 inches above the surface of the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MARYLAND DEL BDRY ARC STONE 2

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	39° 39′ 34.4473″	ELEVATION: 34 METERS
GEODETIC LONGITUDE:	75 47 21.6830	SCALED FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	395,067.11	604,638.73	− 0° 14′ 16″
MD	1900	1,140,869.57	667,371.84	+ 0 45 35

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FORM STATION BDRY MON 83

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~TRIANGULATION/INTERSECTION~~ TRAVERSE STATION

NAME OF STATION: Maryland-Del Bdy ARC STONE 3

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Delaware-Maryland COUNTY: Cecil-New Castle

Description, including sketch of object: The station is located about 2.5 miles southwest of Newark, Delaware, 2.0 miles east-southeast of Elk Mills, Maryland, on property of E. I. Dupont and Company, Incorporated, Stine Laboratories, 200.0 feet west of the centerline of a dim track road, 104.0 feet north of an east and west fenceline at the north edge of a timberline and 40.6 feet north of Arc Stone No. 2.

A traverse connection was made to triangulation station BOUNDARY MONUMENT 83, distance being 387.662 meters south of station BOUNDARY MONUMENT 83. It is Arc Stone No. 3 1849, was placed at the center of the, Meridian, of the arc by Graham's Survey in 1849. It is a 8 X 12 inch granite stone projecting about 25 inches above the surface of the ground. A small cross was etched at the apex and center of the stone to hold the center point for measureing. The letter M is engraved on the west side and letter D, 1849 on the east side.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MARYLAND DEL BDRY ARC STONE 3

STATE DELAWARE - MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

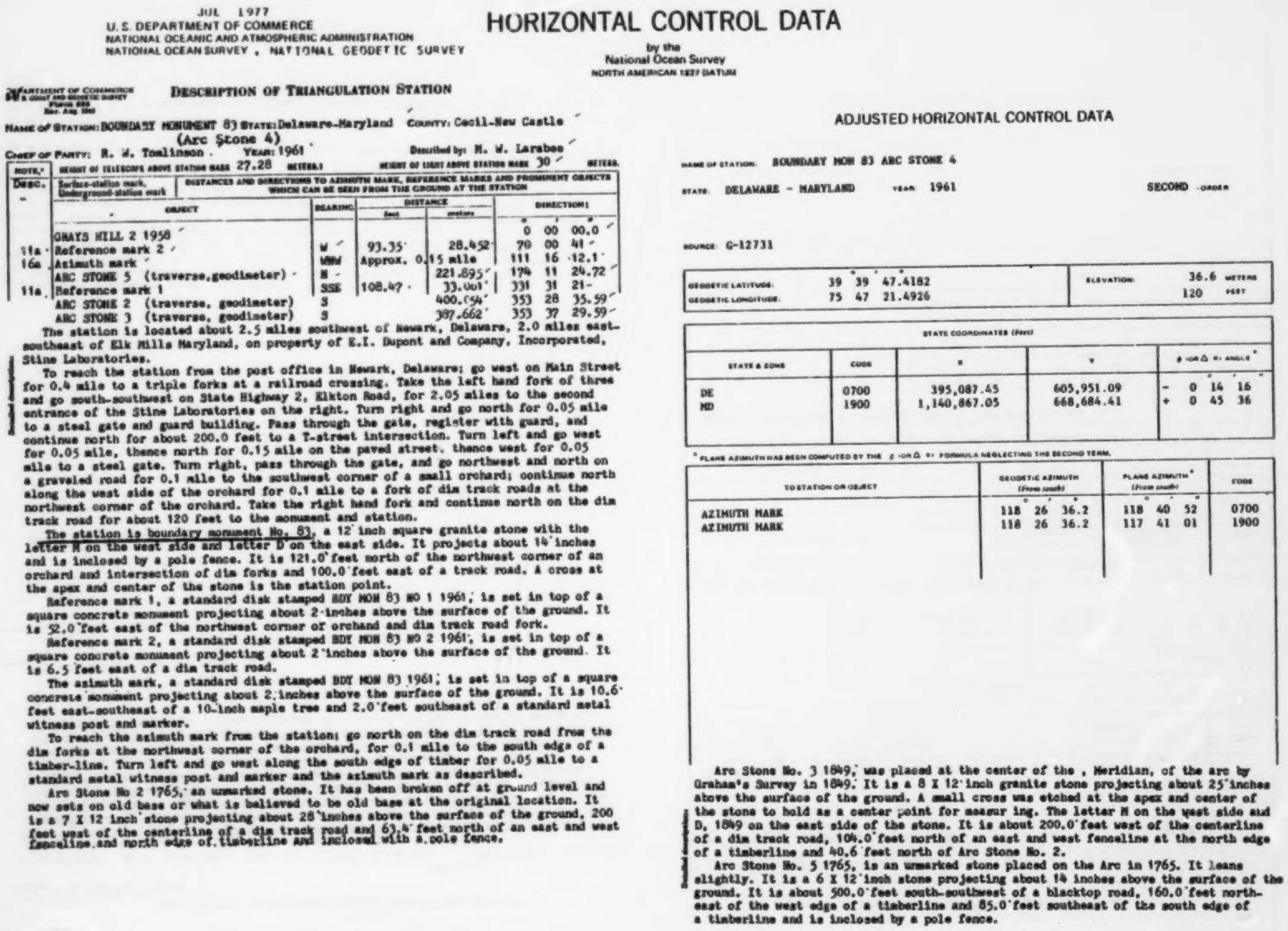
	° ′ ″		
GEODETIC LATITUDE	39 39 34.8496	ELEVATION:	34 METERS
GEODETIC LONGITUDE	75 47 21.7392	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	395,064.45	604,679.44	- 0° 14′ 16″
MD	1900	1,140,866 20	667,412.50	+ 0 45 35

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION BDRY MON 83



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOUNDARY MONUMENT 83 (Arc Stone 4) STATE: Delaware-Maryland COUNTY: Cecil-New Castle
CHIEF OF PARTY: R. W. Tomlinson . YEAR: 1961 DESCRIBED BY: M. W. Larabee
HEIGHT OF TELESCOPE ABOVE STATION MARK 27.28 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE.* Desc.	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION: °	′	″
-	GRAYS HILL 2 1958				0	00	00.0
11a	Reference mark 2	W	93.35	28.452	70	00	41
16a	Azimuth mark	WNW	Approx. 0.15 mile		111	16	12.1
	ARC STONE 5 (traverse, geodimeter)	N		221.895	174	11	24.72
11a	Reference mark 1	SSE	108.47	33.001	331	31	21
	ARC STONE 2 (traverse, geodimeter)	S		400.054	353	28	35.59
	ARC STONE 3 (traverse, geodimeter)	S		387.662	353	37	29.59

The station is located about 2.5 miles southwest of Newark, Delaware, 2.0 miles east-southeast of Elk Mills Maryland, on property of E.I. Dupont and Company, Incorporated, Stine Laboratories.

To reach the station from the post office in Newark, Delaware; go west on Main Street for 0.4 mile to a triple forks at a railroad crossing. Take the left hand fork of three and go south-southwest on State Highway 2, Elkton Road, for 2.05 miles to the second entrance of the Stine Laboratories on the right. Turn right and go north for 0.05 mile to a steel gate and guard building. Pass through the gate, register with guard, and continue north for about 200.0 feet to a T-street intersection. Turn left and go west for 0.05 mile, thence north for 0.15 mile on the paved street. thence west for 0.05 mile to a steel gate. Turn right, pass through the gate, and go northwest and north on a graveled road for 0.1 mile to the southwest corner of a small orchard; continue north along the west side of the orchard for 0.1 mile to a fork of dim track roads at the northwest corner of the orchard. Take the right hand fork and continue north on the dim track road for about 120 feet to the monument and station.

The station is boundary monument No. 83, a 12 inch square granite stone with the letter M on the west side and letter D on the east side. It projects about 14 inches and is inclosed by a pole fence. It is 121.0 feet north of the northwest corner of an orchard and intersection of dim forks and 100.0 feet east of a track road. A cross at the apex and center of the stone is the station point.

Reference mark 1, a standard disk stamped BDY MON 83 NO 1 1961, is set in top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 52.0 feet east of the northwest corner of orchand and dim track road fork.

Reference mark 2, a standard disk stamped BDY MON 83 NO 2 1961, is set in top of a square conurete monument projecting about 2 inches above the surface of the ground. It is 6.5 feet east of a dim track road.

The azimuth mark, a standard disk stamped BDY MON 83 1961, is set in top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 10.6 feet east-southeast of a 10-inch maple tree and 2.0 feet southeast of a standard metal witness post and marker.

To reach the azimuth mark from the station; go north on the dim track road from the dim forks at the northwest corner of the orchard, for 0.1 mile to the south edge of a timber-line. Turn left and go west along the south edge of timber for 0.05 mile to a standard metal witness post and marker and the azimuth mark as described.

Arc Stone No 2 1765, an unmarked stone. It has been broken off at ground level and now sets on old base or what is believed to be old base at the original location. It is a 7 X 12 inch stone projecting about 28 inches above the surface of the ground, 200 feet west of the centerline of a dim track road and 63.4 feet north of an east and west fenceline and north edge of timberline and inclosed with a pole fence.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MON 83 ARC STONE 4
STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE:	39	39	47.4182	ELEVATION:	36.6 METERS
GEODETIC LONGITUDE:	75	47	21.4926		120 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
DE	0700	395,087.45	605,951.09	- 0° 14′ 16″
MD	1900	1,140,867.05	668,684.41	+ 0° 45′ 36″

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	118° 26′ 36.2″	118° 40′ 52″	0700
AZIMUTH MARK	118° 26′ 36.2″	117° 41′ 01″	1900

Arc Stone No. 3 1849, was placed at the center of the , Meridian, of the arc by Graham's Survey in 1849. It is a 8 X 12 inch granite stone projecting about 25 inches above the surface of the ground. A small cross was etched at the apex and center of the stone to hold as a center point for measur ing. The letter M on the west side and D, 1849 on the east side of the stone. It is about 200.0 feet west of the centerline of a dim track road, 104.0 feet north of an east and west fenceline at the north edge of a timberline and 40.6 feet north of Arc Stone No. 2.

Arc Stone No. 5 1765, is an unmarked stone placed on the Arc in 1765. It leans slightly. It is a 6 X 12 inch stone projecting about 14 inches above the surface of the ground. It is about 500.0 feet south-southwest of a blacktop road, 160.0 feet north-east of the west edge of a timberline and 85.0 feet southeast of the south edge of a timberline and is inclosed by a pole fence.

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~[illegible]~~ STATION

NAME OF STATION: Maryland-Del Bdy ARC STONE 5

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Delaware-Maryland **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 2.5 miles southwest of Newark, Delaware, 2.0 miles east-southeast of Elk Mills, Maryland, on property of E. I. Dupont and Company, Incorporated, Stine Laboratories, 500.0 feet south-southwest of a black-top road, 160.0 feet northeast of the west edge of a timberline and 85.0 feet south-east of the south edge of a timberline and is inclosed by a pole fence. This stone is unmarked, placed at its location in 1765, it leans slightly.

A traverse connection was made to triangulation station BOUNDARY MONUMENT 83, distance being 221.895 meters north of station BOUNDARY MONUMENT 83. It is an unmarked stone, 6 X 12 inches and projecting about 14 inches above the surface of the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MARYLAND DEL BDRY ARC STONE 5

STATE DELAWARE - MARYLAND YEAR 1961 SECOND-ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

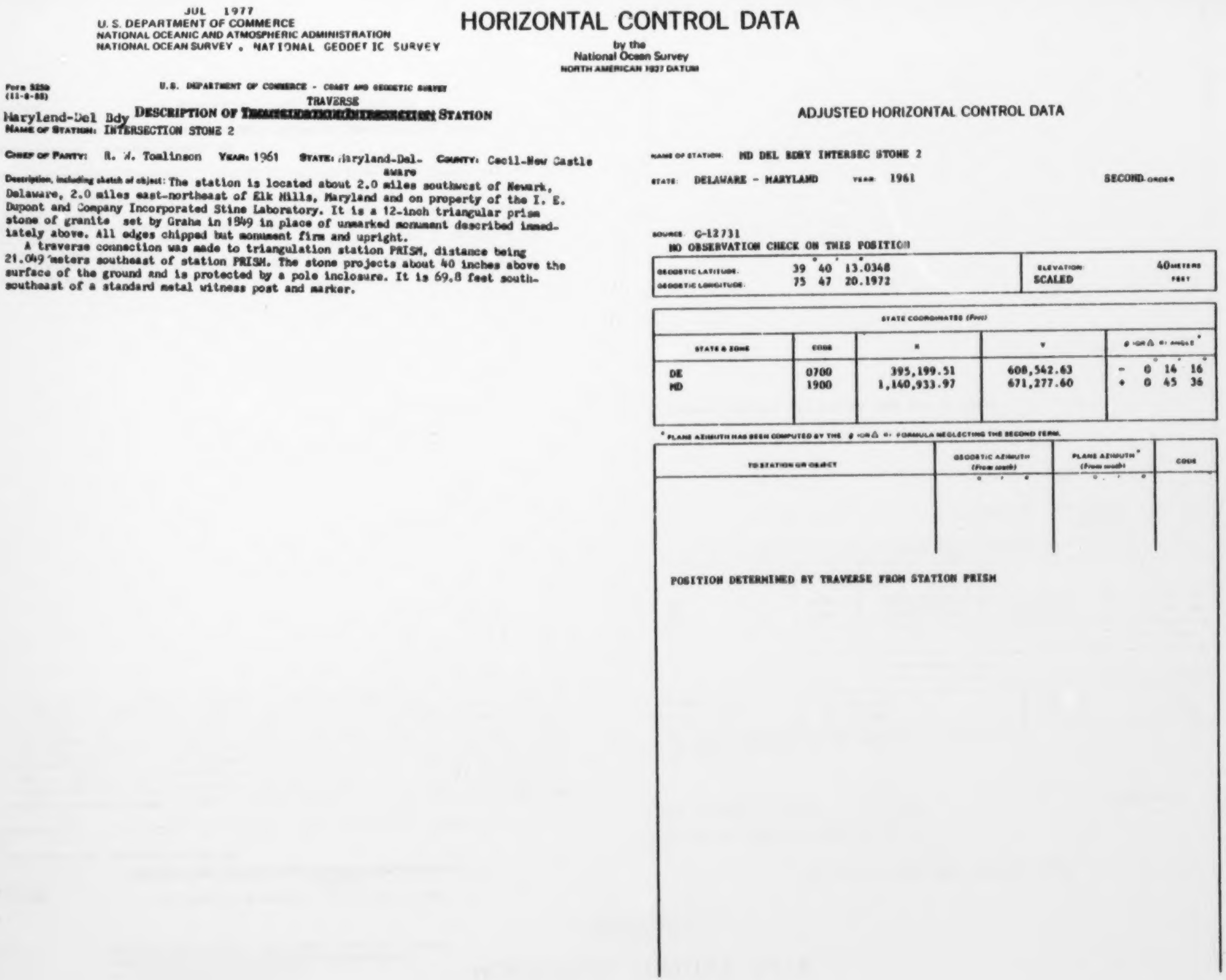
	°	′	″		
GEODETIC LATITUDE	39	39	54.6109	ELEVATION:	35 METERS
GEODETIC LONGITUDE	75	47	21.2711	SCALED	FEET

STATE COORDINATES (Feet)							
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*			
					°	′	″
DE	0700	395,107.79	606,678.80	-	0	14	16
MD	1900	1,140,874.72	669,412.39	+	0	45	36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION BDRY MON 83



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-8-88)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
Maryland-Del Bdy DESCRIPTION OF [illegible] STATION

NAME OF STATION: INTERSECTION STONE 2

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 STATE: Maryland-Delaware COUNTY: Cecil-New Castle

Description, including sketch of object: The station is located about 2.0 miles southwest of Newark, Delaware, 2.0 miles east-northeast of Elk Mills, Maryland and on property of the I. E. Dupont and Company Incorporated Stine Laboratory. It is a 12-inch triangular prism stone of granite set by Graham in 1849 in place of unmarked monument described immediately above. All edges chipped but monument firm and upright.

A traverse connection was made to triangulation station PRISM, distance being 21.049 meters southeast of station PRISM. The stone projects about 40 inches above the surface of the ground and is protected by a pole inclosure. It is 69.8 feet south-southeast of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MD DEL BDRY INTERSEC STONE 2

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

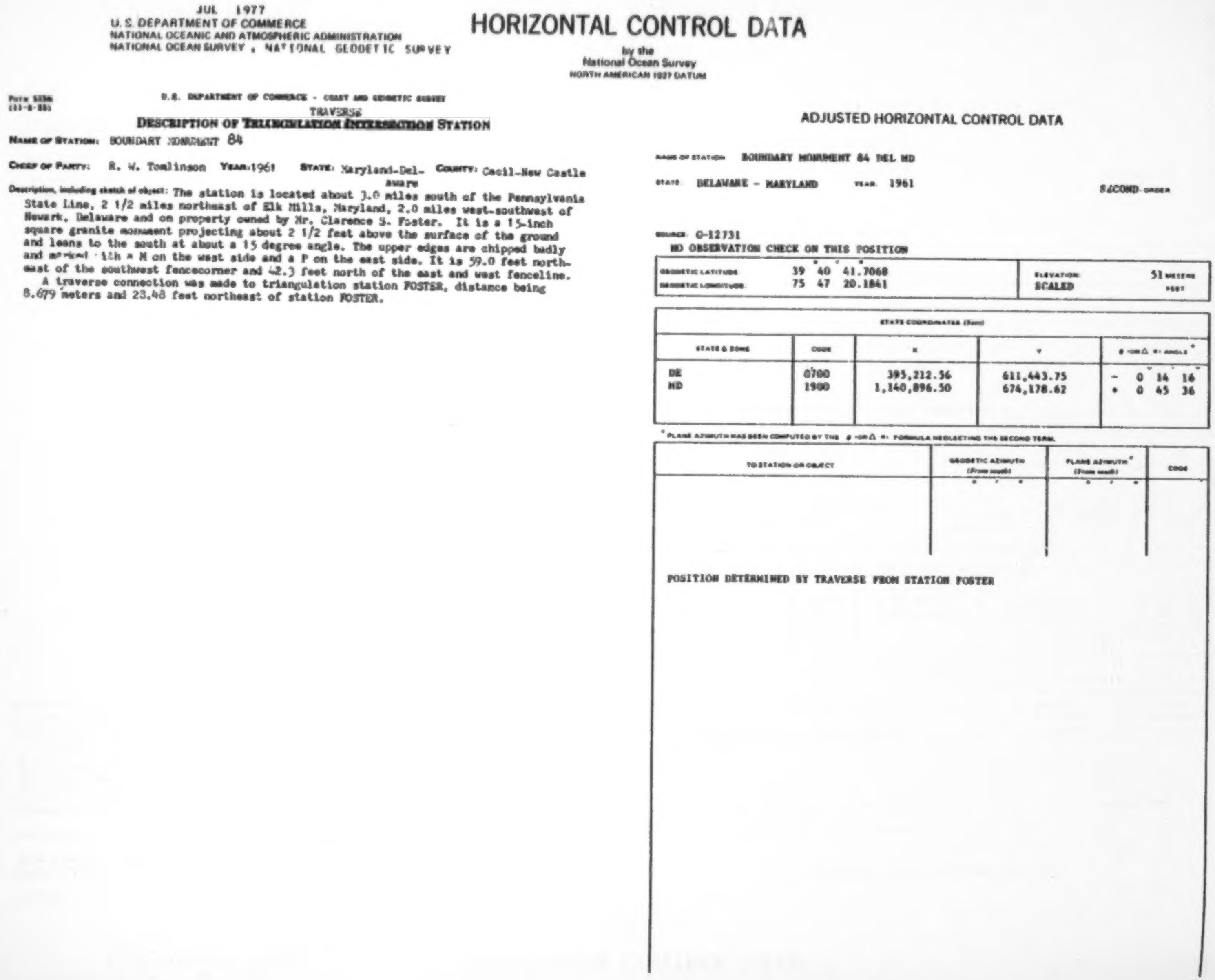
GEODETIC LATITUDE:	39° 40′ 13.0348″	ELEVATION:	40 METERS
GEODETIC LONGITUDE:	75 47 20.1972	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	395,199.51	608,542.63	− 0° 14′ 16″
MD	1900	1,140,933.97	671,277.60	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
	° ′ ″	° ′ ″	

POSITION DETERMINED BY TRAVERSE FROM STATION PRISM



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525a
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: BOUNDARY MONUMENT 84

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 3.0 miles south of the Pennsylvania State Line, 2 1/2 miles northeast of Elk Mills, Maryland, 2.0 miles west-southwest of Newark, Delaware and on property owned by Mr. Clarence S. Foster. It is a 15-inch square granite monument projecting about 2 1/2 feet above the surface of the ground and leans to the south at about a 15 degree angle. The upper edges are chipped badly and marked with a M on the west side and a P on the east side. It is 59.0 feet northeast of the southwest fencecorner and 42.3 feet north of the east and west fenceline.

A traverse connection was made to triangulation station FOSTER, distance being 8.679 meters and 23.48 feet northeast of station FOSTER.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BOUNDARY MONUMENT 84 DEL MD

STATE DELAWARE - MARYLAND YEAR 1961 SECOND-ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

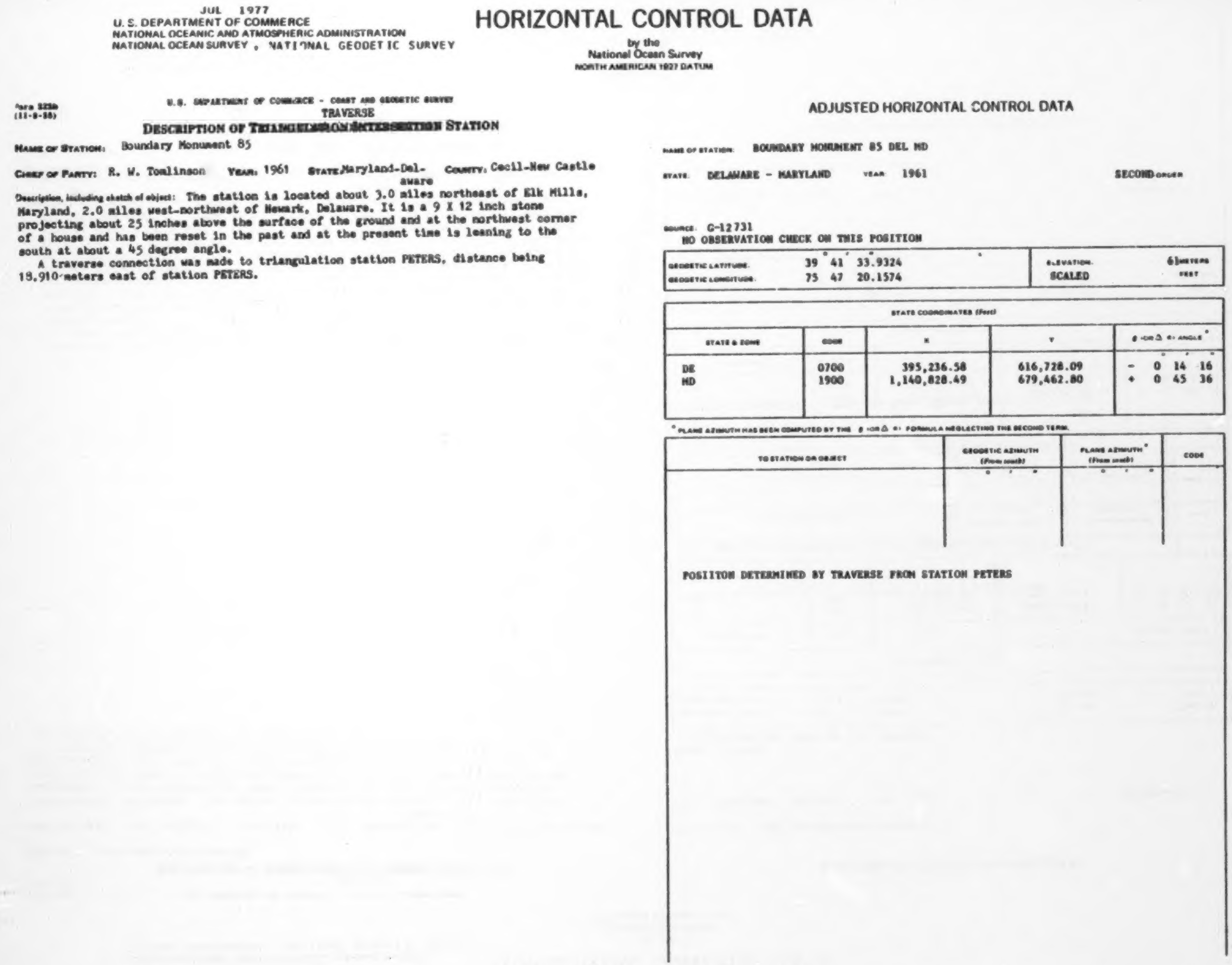
GEODETIC LATITUDE	39° 40′ 41.7068″	ELEVATION	51 METERS
GEODETIC LONGITUDE	75 47 20.1841	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or $\Delta\alpha$) ANGLE*
DE	0700	395,212.56	611,443.75	− 0° 14′ 16″
MD	1900	1,140,896.50	674,178.62	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or $\Delta\alpha$) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION FOSTER



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-9-58)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

NAME OF STATION: Boundary Monument 85

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 3.0 miles northeast of Elk Mills, Maryland, 2.0 miles west-northwest of Newark, Delaware. It is a 9 X 12 inch stone projecting about 25 inches above the surface of the ground and at the northwest corner of a house and has been reset in the past and at the present time is leaning to the south at about a 45 degree angle.

A traverse connection was made to triangulation station PETERS, distance being 18,910 meters east of station PETERS.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 85 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ′ ″		
GEODETIC LATITUDE:	39 41 33.9324	ELEVATION:	6 METERS
GEODETIC LONGITUDE:	75 47 20.1574	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE* ° ′ ″
DE	0700	395,236.58	616,728.09	- 0 14 16
MD	1900	1,140,828.49	679,462.80	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION PETERS

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 525b
(11-9-88)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

DESCRIPTION OF ~~[illegible]~~ TRAVERSE STATION

NAME OF STATION: Boundary Monument 86

CHIEF OF PARTY: R. W. Tomlinson **YEAR:** 1961 **STATE:** Maryland-Delaware **COUNTY:** Cecil-New Castle

Description, including sketch of object: The station is located about 4.0 miles east of Fair Hill, Maryland, 2.5 miles northwest of Newark, Delaware. The stone is 12-inches square, marked with the letter M on the west side and the letter P on the east side and projects about 12 inches above the surface of the ground.

A traverse connection was made to triangulation station SCOUTS, distance being 13.173 meters east-southeast of station SCOUTS.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MONUMENT 86 DEL MD

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS PSOITION

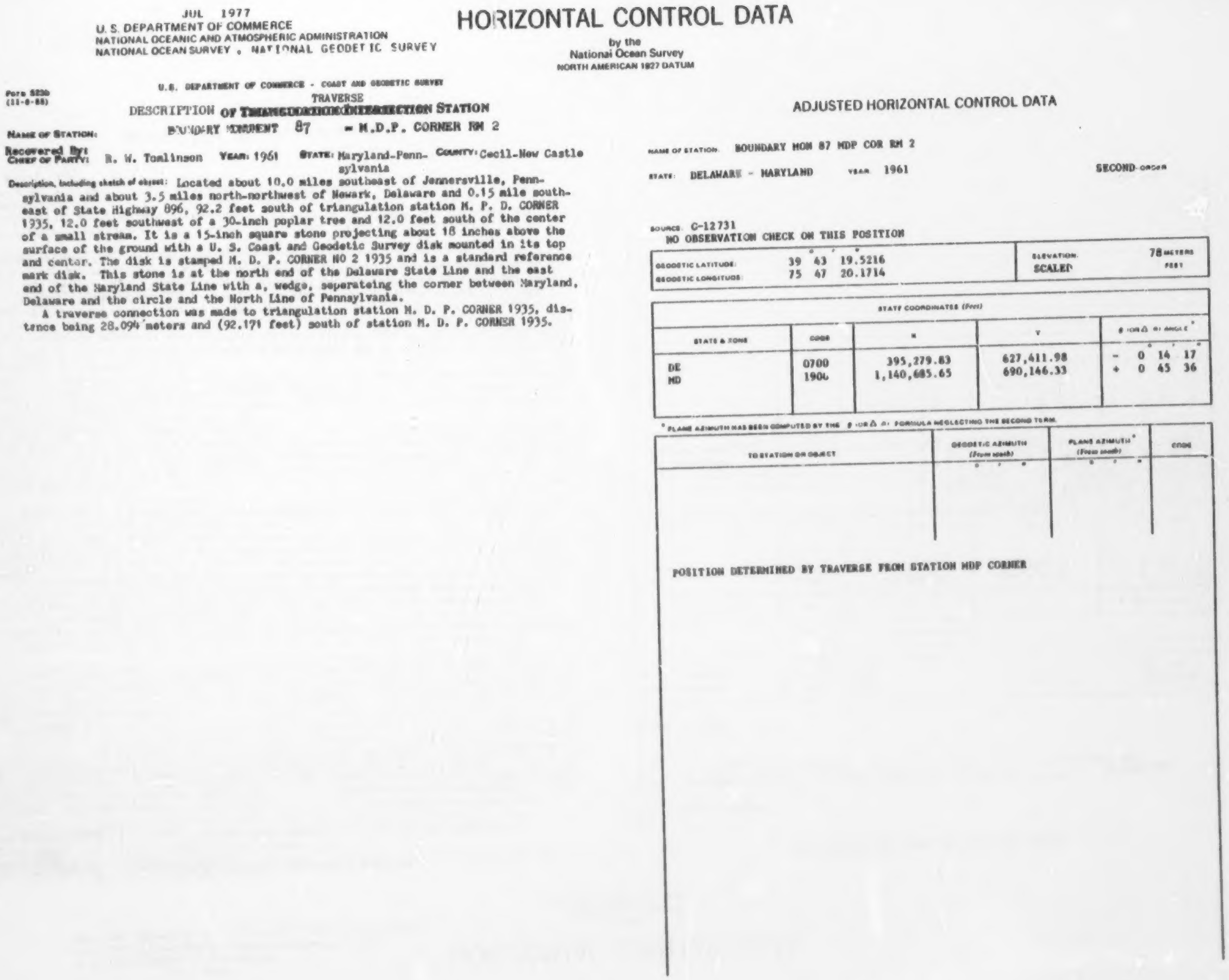
	°	′	″		
GEODETIC LATITUDE:	39	42	26.1893	ELEVATION:	79 METERS
GEODETIC LONGITUDE:	75	47	20.1754	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE *
DE	0700	395,257.12	622,015.62	− 0° 14′ 16″
MD	1900	1,140,756.93	684,750.13	+ 0° 45′ 36″

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH * (From south) ° ′ ″	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION SCOUTS



JUL 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Form 523b
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

TRAVERSE
DESCRIPTION OF ~~TRIANGULATION INTERSECTION~~ STATION

Name of Station: BOUNDARY MONUMENT 87 = M.D.P. CORNER RM 2

Recovered By: ~~**Chief of Party:**~~ R. W. Tomlinson **Year:** 1961 **State:** Maryland-Pennsylvania **County:** Cecil-New Castle

Description, including sketch of object: Located about 10.0 miles southeast of Jennersville, Pennsylvania and about 3.5 miles north-northwest of Newark, Delaware and 0.15 mile southeast of State Highway 896, 92.2 feet south of triangulation station M. P. D. CORNER 1935, 12.0 feet southwest of a 30-inch poplar tree and 12.0 feet south of the center of a small stream. It is a 15-inch square stone projecting about 18 inches above the surface of the ground with a U. S. Coast and Geodetic Survey disk mounted in its top and center. The disk is stamped M. D. P. CORNER NO 2 1935 and is a standard reference mark disk. This stone is at the north end of the Delaware State Line and the east end of the Maryland State Line with a, wedge, seperateing the corner between Maryland, Delaware and the circle and the North Line of Pennsylvania.

A traverse connection was made to triangulation station M. D. P. CORNER 1935, distance being 28.094 meters and (92.171 feet) south of station M. D. P. CORNER 1935.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOUNDARY MON 87 MDP COR RM 2

STATE: DELAWARE - MARYLAND YEAR: 1961 SECOND-ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	° ' "	ELEVATION:	
GEODETIC LATITUDE:	39 43 19.5216	SCALED	78 METERS
GEODETIC LONGITUDE:	75 47 20.1714		FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ' "
DE MD	0700 1900	395,279.83 1,140,685.65	627,411.98 690,146.33	− 0 14 17 + 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION MDP CORNER

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ALLEN STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R.W. Tomlinson - YEAR: 1962 - Described by: E.O. Kaspari -

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 28.14 - METERS.						
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	FEDERAL 2				0	00	0.0
11a	Reference Mark No. 2	NW	142.09	43.310	34	18	13
16a	Azimuth Mark	N	approx	0.45 mile	78	47	55.5
11a	Reference Mark No. 1	SW	108.10	32.950	297	11	24.6
	Boundary Monument 15 (Trav.)	W	(67.582)	20.599	343	15	09.7

HEIGHT OF LIGHT ABOVE STATION MARK 30.75 - METERS.

Station is located about 1.0 mile north of Oak Grove, 4.0 miles southeast of Federalsburg Maryland, 5.5 miles northeast of Seaford Delaware, and about 0.4 mile south of the Bethel Church and Cemetery.

To reach the station from the intersection of main street and central ave. in Federalsburg Maryland, go easterly on State Highway 318 for 0.35 mile to the junction of State Highways 318 and 306, keep the right fork and continue easterly on State Highway 318 for 2.8 miles to a church on the left and a side road on the right, turn right, go southerly on the macadam road for 1.5 miles to forks at the Bethel cemetery on the left, take the right fork and go southerly for 0.4 mile to a side road right, continue for 0.1 mile to the station on the left.

Station Mark, a standard disk stamped ALLEN 1962, set in the top of a 10 X 10 inch square concrete monument, that is 18 inches below the ground surface. It is 51.0 feet east of a black top road; 82.0 feet east of a north-south timber line.

Reference Mark No. 1, a standard disk stamped ALLEN NO. 1 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inches above ground surface. It is 27.6 feet east of a black top road; 63.0 feet east of a cultivated field; 9.0 feet north of a 10 inch pine tree.

Reference Mark No. 2, a standard disk stamped ALLEN NO. 2 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inch from ground surface. It is 39.6 feet west of a black top road; 69.0 feet west of a cultivated field; 13.4 feet northeast of a 8 inch oak tree.

Azimuth Mark, a standard disk stamped ALLEN 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 31.0 feet north of center of macadam road; 12.0 feet south-southwest of a 6 inch cedar tree; 35.0 feet east of a 12 inch cedar tree; 52.0 feet west of a driveway to the church.

Boundary Monument No. 15, a 12 X 12 inch square monument, projecting 30 inches from the ground, with a coat of arms on the east and west side. It is 17.0 feet west of a black top road; 18.0 feet east of a north-south woods line; 30.0 feet west of a cultivated field.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ALLEN

STATE: DELAWARE YEAR: 1962 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38° 40′ 38.″6485		ELEVATION:	16.2 METERS
GEODETIC LONGITUDE:	75 42 39.0939			47 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δα) ANGLE*
DE	0700	416,008.28	246,826.13	- 0° 11′ 02″
MD	1900	1,168,021.25	309,987.70	+ 0 48 33

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	181° 06′ 55.″4	181° 17′ 57″	0700
AZIMUTH MARK	181 06 55.4	180 18 23	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

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RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: ARC
ESTABLISHED BY: J.C.E. YEAR: 1958 STATE: Maryland BENCH MARK ALSO ☒
RECOVERED BY:* YEAR: 1977 COUNTY: Cecil
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 1/2 miles southwest of Newark, Del.
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
TANGENT 1958	S		369.428	0 00 00.00
RM 4	SW	25.33	7.718	41 08 20
Line Reset 1958 MBCS	W		100.435	96 21 45.4
RM 3	SE	50.72	15.462	317 57 28
RM 3 to RM 4		53.94	16.528	

The station mark was recovered and found in good condition. Both reference marks were destroyed by the construction of Mr. McIntire's house. ARC stone number 1 1958 is no longer visible from the ground. Two new reference marks were set at this date.

A complete new description follows.

The station is located 22 miles northeast of Aberdeen, 3 miles northeast of Elkton, 2 1/2 miles southwest of Newark, Delaware, and on property owned by Mr. C. H. McIntire, and Mr. McIntire lives in a house which is near the station.

To reach from the intersection of Interstate Highway 95 and State Highway 279 which is 3 miles northeast of Elkton, go northeast on State Highway 279 for 1.0 mile to line reset 1958 MBCS on the right. Continue northeast on State Highway 279 for 0.05 miles to a farm road on the right. Turn right, go southeast on the farm road for 0.05 mile to the station on the left.

The station mark is a standard disk stamped ARC 1958, set in the top of a 10-inch round concrete monument which is flush with the surface. It is 88 feet southeast of a powerline pole numbered C & P 1, 48 feet east of a 12-inch maple tree, 16.5 feet southwest of the most westerly entrance to Mr. McIntire's house, and 15 feet northeast of the center of the farm road. (NOTE 1b 7a)

Reference mark three is a standard disk stamped ARC 1958 NO 3 1977 set in the top of a 10-inch round concrete monument which is flush with the surface. It is 35.8 feet south of the most south corner of the house, 7 feet northeast of the center of the farm road, and 2.5 feet west of a powerline pole. (NOTE 11b)

Reference mark four is a standard disk stamped ARC 1958 NO 4 1977 set in the top of a 10-inch round concrete monument which is flush with the surface. It is 40.7 feet southwest of the most west entrance to the house, 34.6 feet southeast of the 12-inch maple tree, and 10 feet southwest of the center of the farm road. (NOTE 11b)

LINE RESET 1958 MBCS is a Maryland Bureau of Control Survey disk stamped LINE RESET 1958, set in the top of a 6-inch round concrete monument which projects 8-inches. It is 64 feet east-northeast of a powerline pole numbered MMPC07, 40 feet southeast of the center of State Highway 279 and 1 foot north of a witness post.

Triangulation Station TANGENT 1958 may be used as an azimuth mark for this station, see description thereof.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ARC
STATE: MARYLAND YEAR 1958 SECOND ORDER

SOURCE: G-12012

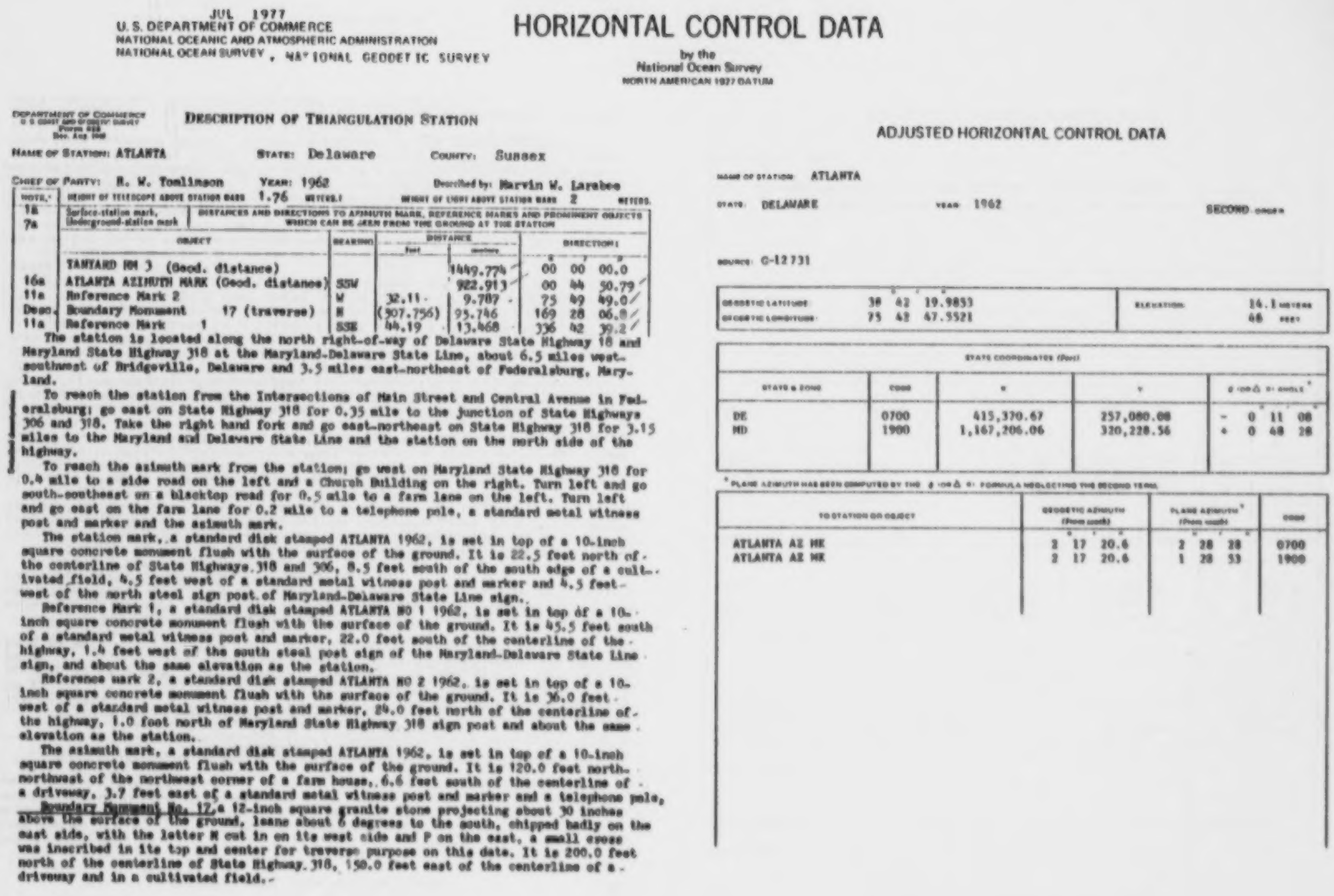
GEODETIC LATITUDE:	39° 39′ 08.4438″	ELEVATION:	43.21 METERS
GEODETIC LONGITUDE:	75 47 22.1635		141.8 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
MD	1900	1,140,866.88	664,740.35	+ 0° 45′ 35″
DE	0700	395,018.60	602,007.78	− 0 14 17
PA S	3702	2,552,037.60	122,338.75	+ 1 16 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
OTTS	355° 52′ 12.78″	355° 06′ 38″	1900
OTTS	355 52 12.78	356 06 29	0700
OTTS	355 52 12.78	354 35 54	3702

Additional descriptive information for this station may be obtained from the National Geodetic Survey,



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug 1958

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ATLANTA STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.76 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE.*	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
1a 7a	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	TANYARD RM 3 (Geod. distance)			1449.774	00 00 00.0
16a	ATLANTA AZIMUTH MARK (Geod. distance)	SSW		922.913	00 44 50.79
11a	Reference Mark 2	W	32.11	9.787	75 49 49.0
Desc.	Boundary Monument 17 (traverse)	N	(307.756)	93.746	169 28 06.8
11a	Reference Mark 1	SSE	44.19	13.468	336 42 39.2

The station is located along the north right-of-way of Delaware State Highway 18 and Maryland State Highway 318 at the Maryland-Delaware State Line, about 6.5 miles west-southwest of Bridgeville, Delaware and 3.5 miles east-northeast of Federalsburg, Maryland.

To reach the station from the Intersections of Main Street and Central Avenue in Federalsburg; go east on State Highway 318 for 0.35 mile to the junction of State Highways 306 and 318. Take the right hand fork and go east-northeast on State Highway 318 for 3.15 miles to the Maryland and Delaware State Line and the station on the north side of the highway.

To reach the azimuth mark from the station; go west on Maryland State Highway 318 for 0.4 mile to a side road on the left and a Church Building on the right. Turn left and go south-southeast on a blacktop road for 0.5 mile to a farm lane on the left. Turn left and go east on the farm lane for 0.2 mile to a telephone pole, a standard metal witness post and marker and the azimuth mark.

The station mark, a standard disk stamped ATLANTA 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 22.5 feet north of the centerline of State Highways 318 and 306, 8.5 feet south of the south edge of a cultivated field, 4.5 feet west of a standard metal witness post and marker and 4.5 feet west of the north steel sign post of Maryland-Delaware State Line sign.

Reference Mark 1, a standard disk stamped ATLANTA NO 1 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 45.5 feet south of a standard metal witness post and marker, 22.0 feet south of the centerline of the highway, 1.4 feet west of the south steel post sign of the Maryland-Delaware State Line sign, and about the same elevation as the station.

Reference mark 2, a standard disk stamped ATLANTA NO 2 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 36.0 feet west of a standard metal witness post and marker, 24.0 feet north of the centerline of the highway, 1.0 foot north of Maryland State Highway 318 sign post and about the same elevation as the station.

The azimuth mark, a standard disk stamped ATLANTA 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 120.0 feet north-northwest of the northwest corner of a farm house, 6.6 feet south of the centerline of a driveway, 3.7 feet east of a standard metal witness post and marker and a telephone pole,

Boundary Monument No. 17, a 12-inch square granite stone projecting about 30 inches above the surface of the ground, leans about 6 degrees to the south, chipped badly on the east side, with the letter M cut in on its west side and P on the east, a small cross was inscribed in its top and center for traverse purpose on this date. It is 200.0 feet north of the centerline of State Highway 318, 150.0 feet east of the centerline of a driveway and in a cultivated field.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION ATLANTA

STATE DELAWARE YEAR 1962 SECOND ORDER

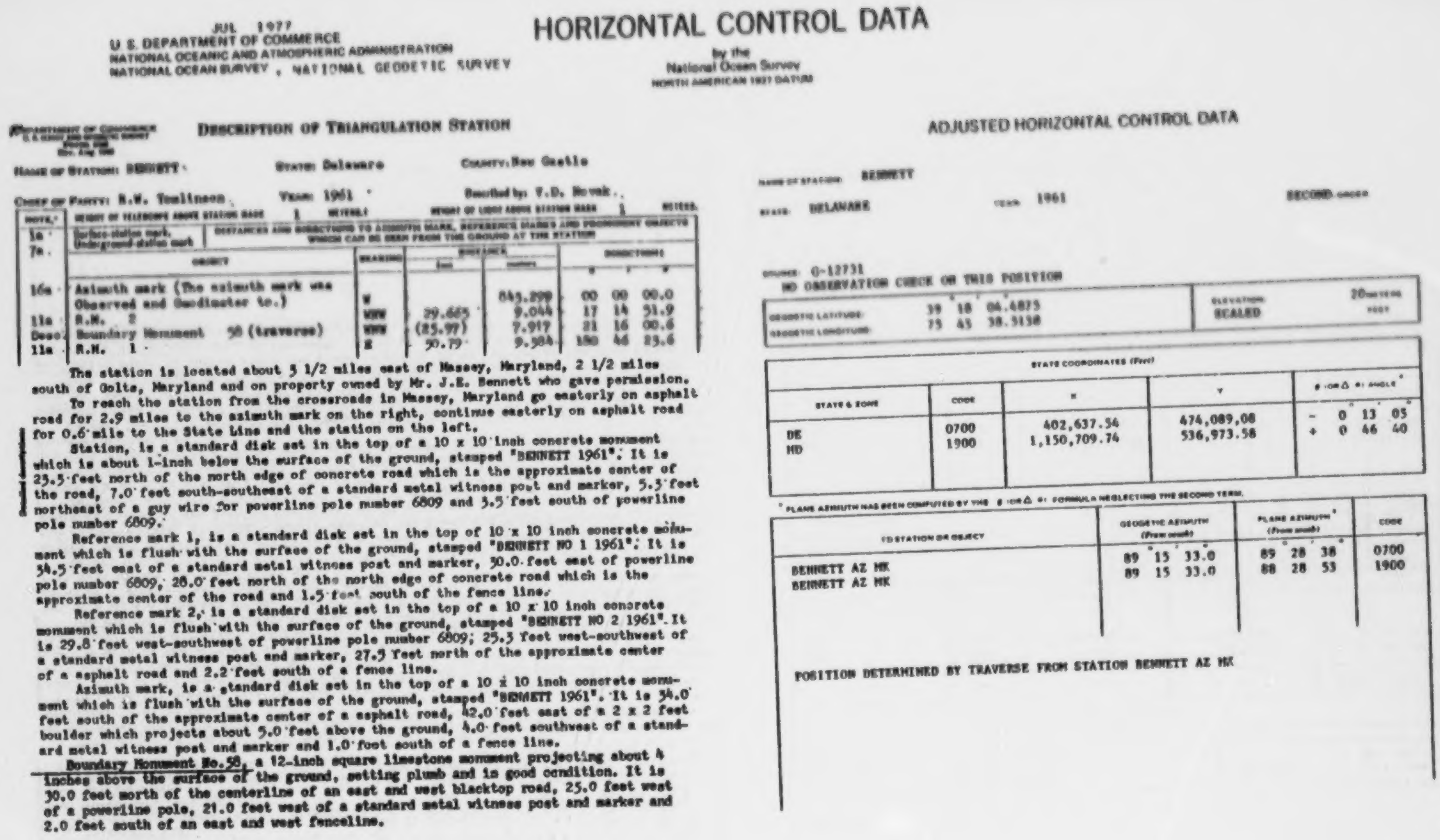
SOURCE G-12731

	° ′ ″		
GEODETIC LATITUDE	38 42 19.9853	ELEVATION	14.1 METERS
GEODETIC LONGITUDE	75 42 47.5521		46 FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	415,370.67	257,080.08	− 0 11 08
MD	1900	1,167,206.06	320,228.56	+ 0 48 28

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
ATLANTA AZ MK	2 17 20.6	2 28 28	0700
ATLANTA AZ MK	2 17 20.6	1 28 53	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: BENNETT
State: Delaware
County: New Castle
Chief of Party: R.W. Tomlinson
Year: 1961
Described by: V.D. Novak

Note	Object	Bearing	Distance (feet)	Distance (meters)	Direction °	'	"
1a 7a.	Surface-station mark. Underground-station mark						
16a	Azimuth mark (The azimuth mark was Observed and Geodimeter to.)	W		845.299	00	00	00.0
11a	R.M. 2	WSW	29.665	9.044	17	14	51.9
Desc	Boundary Monument 58 (traverse)	WSW	(25.97)	7.917	21	16	00.6
11a	R.M. 1	E	30.79	9.384	180	46	23.6

The station is located about 3 1/2 miles east of Massey, Maryland, 2 1/2 miles south of Golts, Maryland and on property owned by Mr. J.E. Bennett who gave permission.

To reach the station from the crossroads in Massey, Maryland go easterly on asphalt road for 2.9 miles to the azimuth mark on the right, continue easterly on asphalt road for 0.6 mile to the State Line and the station on the left.

Station, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 1-inch below the surface of the ground, stamped "BENNETT 1961". It is 23.5 feet north of the north edge of concrete road which is the approximate center of the road, 7.0 feet south-southeast of a standard metal witness post and marker, 5.3 feet northeast of a guy wire for powerline pole number 6809 and 3.5 feet south of powerline pole number 6809.

Reference mark 1, is a standard disk set in the top of 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "BENNETT NO 1 1961". It is 34.5 feet east of a standard metal witness post and marker, 30.0 feet east of powerline pole number 6809, 28.0 feet north of the north edge of concrete road which is the approximate center of the road and 1.5 feet south of the fence line.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "BENNETT NO 2 1961". It is 29.8 feet west-southwest of powerline pole number 6809; 25.3 feet west-southwest of a standard metal witness post and marker, 27.3 feet north of the approximate center of a asphalt road and 2.2 feet south of a fence line.

Azimuth mark, is a standard disk set in the top of a 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "BENNETT 1961". It is 34.0 feet south of the approximate center of a asphalt road, 42.0 feet east of a 2 x 2 feet boulder which projects about 5.0 feet above the ground, 4.0 feet southwest of a standard metal witness post and marker and 1.0 foot south of a fence line.

Boundary Monument No. 58, a 12-inch square limestone monument projecting about 4 inches above the surface of the ground, setting plumb and in good condition. It is 30.0 feet north of the centerline of an east and west blacktop road, 25.0 feet west of a powerline pole, 21.0 feet west of a standard metal witness post and marker and 2.0 feet south of an east and west fenceline.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BENNETT
STATE DELAWARE
YEAR 1961
SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	'	"	
GEODETIC LATITUDE	39	18	04.4875	ELEVATION 20 METERS
GEODETIC LONGITUDE	75	45	38.5130	SCALED

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	402,637.54	474,089,08	− 0° 13' 05"
MD	1900	1,150,709.74	536,973.58	+ 0 46 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BENNETT AZ MK	89° 15' 33.0"	89° 28' 38"	0700
BENNETT AZ MK	89 15 33.0	88 28 53	1900

POSITION DETERMINED BY TRAVERSE FROM STATION BENNETT AZ MK

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BETHEL RM 3 STATE: Delaware COUNTY: New Castle

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: R.L. Wright

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 35.44 METERS.		HEIGHT OF LIGHT ABOVE STATION MARK 38.12 METERS.				
11a 11b	Surface-station mark. Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	WILLIAMS 1934				0	00	00.00
	Boundary Monument No. 74 (traverse)	N	165.11	50.3264	32	04	57.9
11a	Reference Mark No. 2	N	161.16	49.120	32	43	18.8
16a	Azimuth Mark	W	Approx. 0.15 mile		296	18	56.3
a-7a	BETHEL (USE) 1934	WNW	Trav.Dist	128.105	307	39	40.6

The station is located in the southeast corner of the Bethel Cemetery , 1.6 miles east of Chesapeak City, 2.8 miles west of State Highway 896 and about 20 yards south of the Chesapeak-Delaware Canal.

To reach the station from the post offic in Chesapeak City, go easterly along the south shore of the canal for 0.5 mile to a T-road junction, turn right and continue east on a concrete road for 1.5 mile to a crossroad, turn left and go north on a macadam road for 0.8 mile to the entrance of the Bethel Cemetery, turn right and go southeast across the Cemetery for 0.2 mile to the southeast corner of the Cemetery and the station.

The station mark is a standard reference mark disk stamped BETHEL NO.3 1961, set in top of a square concetet monument which is flush with the ground surface. It is 2.4 feet north of a standard metal witness post located in the east and west fence line and 20.2 feet west of the southeast fence corner.

BETHEL U.S.E. 1934 is a standard U.S. Corps of Engineer's Triangulation disk stamped BETHEL USCofE NO 4734 1934, set in top of a square concrete monument which is flush with the ground surface. It is 18.6 meters south of the Queck and Moody Tombstone, 32.5 meters south-southeast of the Kershaw Tombstone and 20.90 meters southwest of Kern Tombstone.

Reference mark 2 is a standard U.S. Corps of Engineer's Triangulation disk stamped BETHEL USC of E NO 4734 NO 2 1934; set in top of a square concrete monument which projects 2 inches above the ground surface. It is 6 inches west-northwest of the woven fence line, 3.5 feet south-southwest of the north end of the woven fence line and 3.9 feet south of Boundary Monument No. 74.

Azimuth mark is a standard disk stamped BETHEL 1961, set in top of a square concrete monument which projects 4 inches above the ground surface. It is 1.0 feet north of the east and west fence line and 88.6 feet south of the southwest corner of Ford tombstone.

Boundary Monument No. 74 is a 11" X 11" limestone boulder bearing the coat of arms projection about 30 inches above the ground surface. It is located in the east fence line around the Bethel Cemetery, at the south end of an evergreen hedge row and at the north end of a woven fence line. The monument is leaning considerable east-southeast.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BETHEL RM 3

STATE: DELAWARE YEAR: 1961 SECOND-ORDER

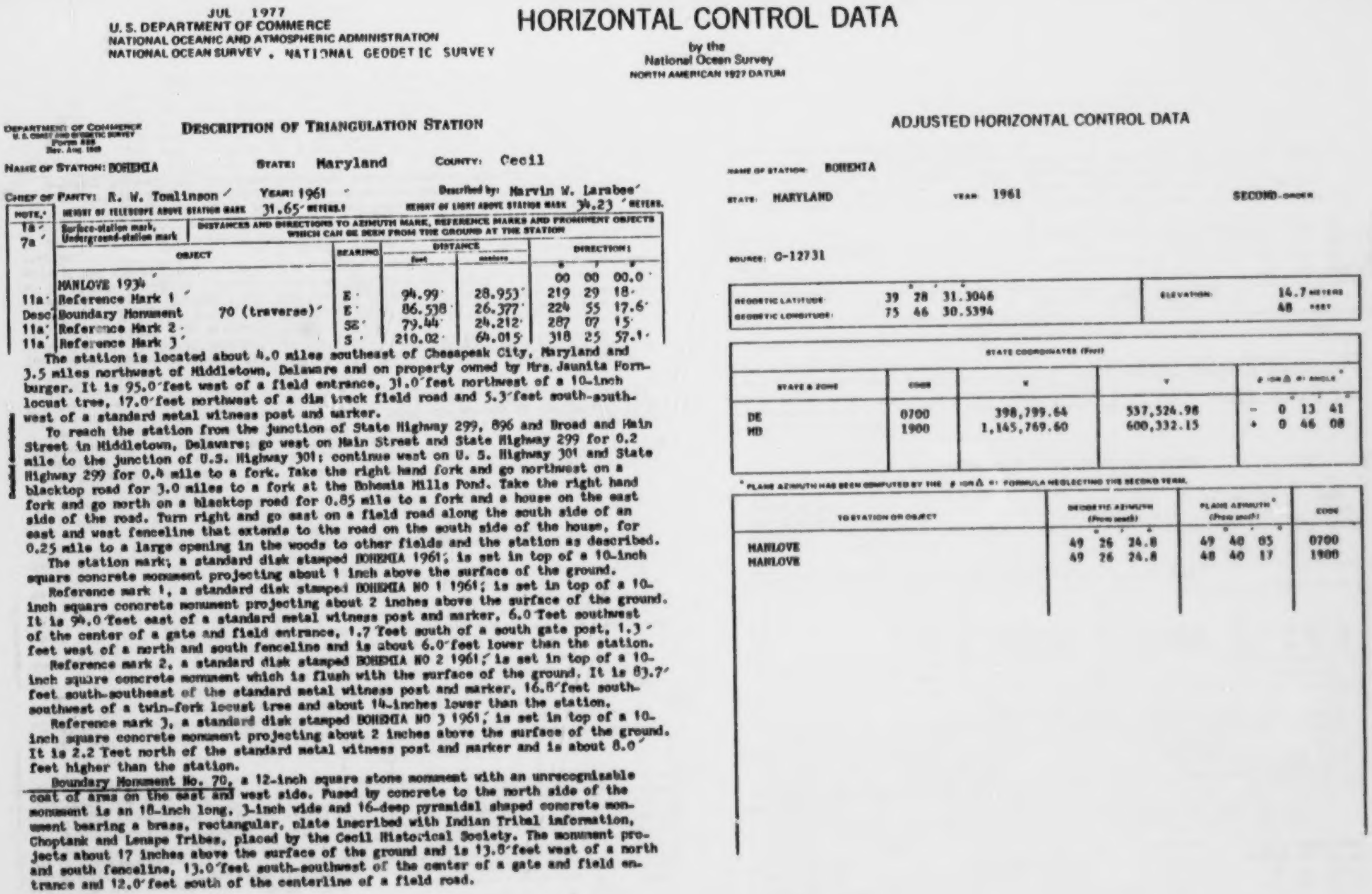
SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE:	39	31	58.4387	ELEVATION:	15.1 METERS
GEODETIC LONGITUDE:	75	46	46.0882		30 FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* °	′	″
DE	0700	397,664.76	558,487.67	− 0	13	51
MD	1900	1,144,270.21	621,271.99	+ 0	45	58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
AZIMUTH MARK	75	41	54.2	75	55	46	0700
AZIMUTH MARK	75	41	54.2	74	55	56	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOHEMIA   STATE: Maryland   COUNTY: Cecil

CHIEF OF PARTY: R. W. Tomlinson   YEAR: 1961   Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.65 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 34.23 METERS.

NOTE.	Surface-station mark, Underground-station mark							
1a 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION							
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	MANLOVE 1934				00	00	00.0
11a	Reference Mark 1	E	94.99	28.953	219	29	18
Desc	Boundary Monument 70 (traverse)	E	86.538	26.377	224	55	17.6
11a	Reference Mark 2	SE	79.44	24.212	287	07	15
11a	Reference Mark 3	S	210.02	64.015	318	25	57.1

The station is located about 4.0 miles southeast of Chesapeak City, Maryland and 3.5 miles northwest of Middletown, Delaware and on property owned by Mrs. Jaunita Fornburger. It is 95.0 feet west of a field entrance, 31.0 feet northwest of a 10-inch locust tree, 17.0 feet northwest of a dim track field road and 5.3 feet south-southwest of a standard metal witness post and marker.

To reach the station from the junction of State Highway 299, 896 and Broad and Main Street in Middletown, Delaware; go west on Main Street and State Highway 299 for 0.2 mile to the junction of U.S. Highway 301; continue west on U. S. Highway 301 and State Highway 299 for 0.4 mile to a fork. Take the right hand fork and go northwest on a blacktop road for 3.0 miles to a fork at the Bohemia Mills Pond. Take the right hand fork and go north on a blacktop road for 0.85 mile to a fork and a house on the east side of the road. Turn right and go east on a field road along the south side of an east and west fenceline that extends to the road on the south side of the house, for 0.25 mile to a large opening in the woods to other fields and the station as described.

The station mark, a standard disk stamped BOHEMIA 1961, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground.

Reference mark 1, a standard disk stamped BOHEMIA NO 1 1961; is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 94.0 feet east of a standard metal witness post and marker, 6.0 feet southwest of the center of a gate and field entrance, 1.7 feet south of a south gate post, 1.3 feet west of a north and south fenceline and is about 6.0 feet lower than the station.

Reference mark 2, a standard disk stamped BOHEMIA NO 2 1961, is set in top of a 10-inch square concrete monument which is flush with the surface of the ground. It is 83.7 feet south-southeast of the standard metal witness post and marker, 16.8 feet south-southwest of a twin-fork locust tree and about 14-inches lower than the station.

Reference mark 3, a standard disk stamped BOHEMIA NO 3 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 2.2 feet north of the standard metal witness post and marker and is about 8.0 feet higher than the station.

Boundary Monument No. 70, a 12-inch square stone monument with an unrecognizable coat of arms on the east and west side. Fused by concrete to the north side of the monument is an 18-inch long, 3-inch wide and 16-deep pyramidal shaped concrete monument bearing a brass, rectangular, plate inscribed with Indian Tribal information, Choptank and Lenape Tribes, placed by the Cecil Historical Society. The monument projects about 17 inches above the surface of the ground and is 13.8 feet west of a north and south fenceline, 13.0 feet south-southwest of the center of a gate and field entrance and 12.0 feet south of the centerline of a field road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOHEMIA

STATE: MARYLAND   YEAR: 1961   SECOND-ORDER

SOURCE: G-12731

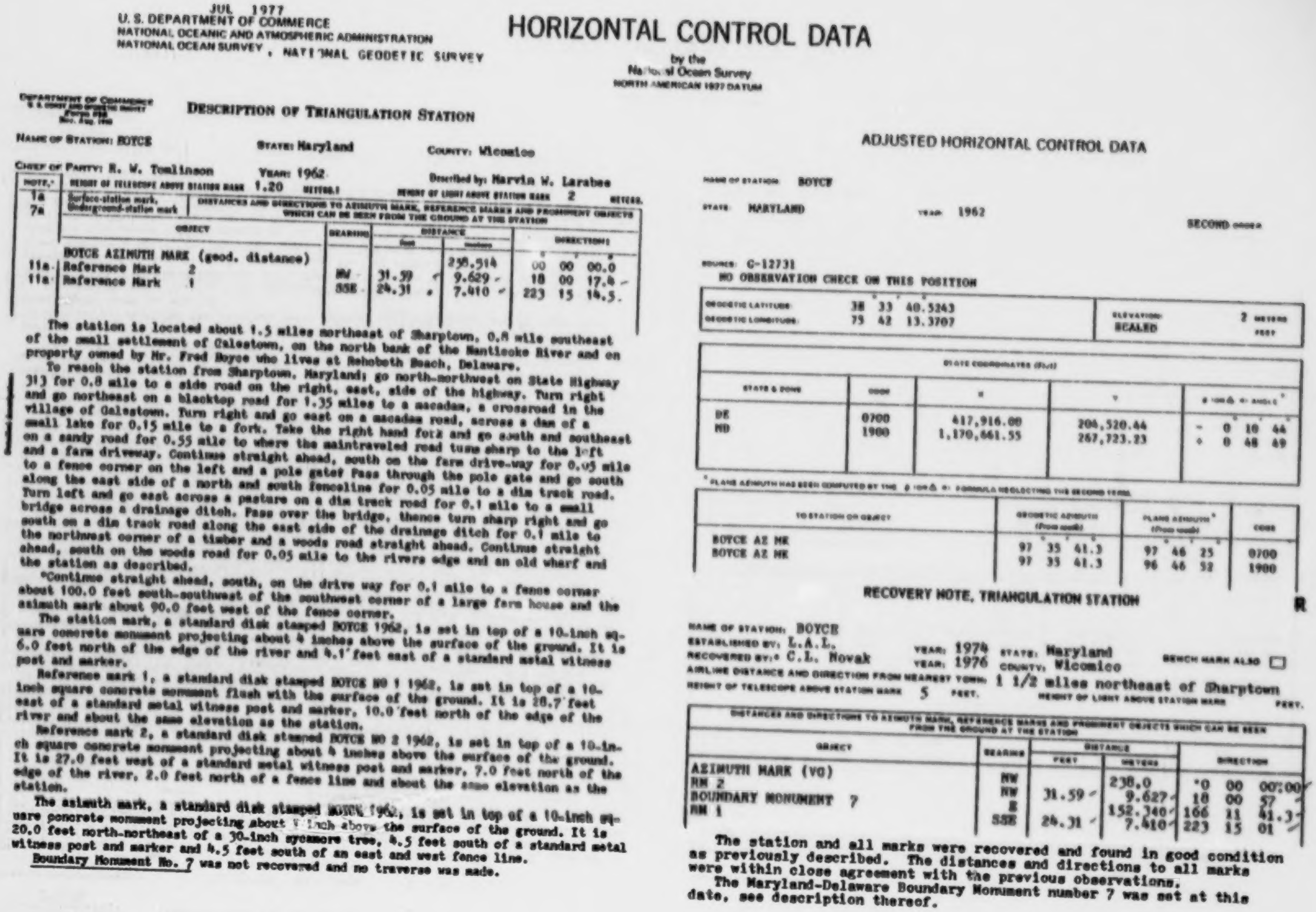
	°	′	″		
GEODETIC LATITUDE:	39	28	31.3046	ELEVATION:	14.7 METERS
GEODETIC LONGITUDE:	75	46	30.5394		48 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*	°	′	″
DE	0700	398,799.64	537,524.98	−	0	13	41
MD	1900	1,145,769.60	600,332.15	+	0	46	08

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
MANLOVE	49	26	24.8	49	40	05	0700
MANLOVE	49	26	24.8	48	40	17	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: BOYCE STATE: Maryland COUNTY: Wicomico

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.20 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE: 1a Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	BOYCE AZIMUTH MARK (geod. distance)			238.514	00	00	00.0
11a.	Reference Mark 2	NW	31.59	9.629	18	00	17.4
11a.	Reference Mark 1	SSE	24.31	7.410	223	15	14.5

The station is located about 1.5 miles northeast of Sharptown, 0.8 mile southeast of the small settlement of Galestown, on the north bank of the Nanticoke River and on property owned by Mr. Fred Boyce who lives at Rehoboth Beach, Delaware.

To reach the station from Sharptown, Maryland; go north-northwest on State Highway 313 for 0.8 mile to a side road on the right, east, side of the highway. Turn right and go northeast on a blacktop road for 1.35 miles to a macadam, a crossroad in the village of Galestown. Turn right and go east on a macadam road, across a dam of a small lake for 0.15 mile to a fork. Take the right hand fork and go south and southeast on a sandy road for 0.55 mile to where the maintraveled road turns sharp to the left and a farm driveway. Continue straight ahead, south on the farm drive-way for 0.05 mile to a fence corner on the left and a pole gate. Pass through the pole gate and go south along the east side of a north and south fenceline for 0.05 mile to a dim track road. Turn left and go east across a pasture on a dim track road for 0.1 mile to a small bridge across a drainage ditch. Pass over the bridge, thence turn sharp right and go south on a dim track road along the east side of the drainage ditch for 0.1 mile to the northwest corner of a timber and a woods road straight ahead. Continue straight ahead, south on the woods road for 0.05 mile to the rivers edge and an old wharf and the station as described.

*Continue straight ahead, south, on the drive way for 0.1 mile to a fence corner about 100.0 feet south-southwest of the southwest corner of a large farm house and the azimuth mark about 90.0 feet west of the fence corner.

The station mark, a standard disk stamped BOYCE 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 6.0 feet north of the edge of the river and 4.1' feet east of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped BOYCE NO 1 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 28.7' feet east of a standard metal witness post and marker, 10.0' feet north of the edge of the river and about the same elevation as the station.

Reference mark 2, a standard disk stamped BOYCE NO 2 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 27.0 feet west of a standard metal witness post and marker, 7.0 feet north of the edge of the river, 2.0 feet north of a fence line and about the same elevation as the station.

The azimuth mark, a standard disk stamped BOYCE 1962, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 20.0 feet north-northeast of a 30-inch sycamore tree, 4.5 feet south of a standard metal witness post and marker and 4.5 feet south of an east and west fence line.

Boundary Monument No. 7 was not recovered and no traverse was made.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: BOYCE
STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE:	38° 33′ 40.5243″	ELEVATION:	2	METERS
GEODETIC LONGITUDE:	75 42 13.3707	SCALED		FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	[illegible] ANGLE*
DE	0700	417,916.00	206,520.44	− 0° 10′ 44″
MD	1900	1,170,661.55	267,723.23	+ 0 48 49

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE [illegible] FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
BOYCE AZ MK	97° 35′ 41.3″	97° 46′ 25″	0700
BOYCE AZ MK	97 35 41.3	96 46 52	1900

RECOVERY NOTE, TRIANGULATION STATION

R

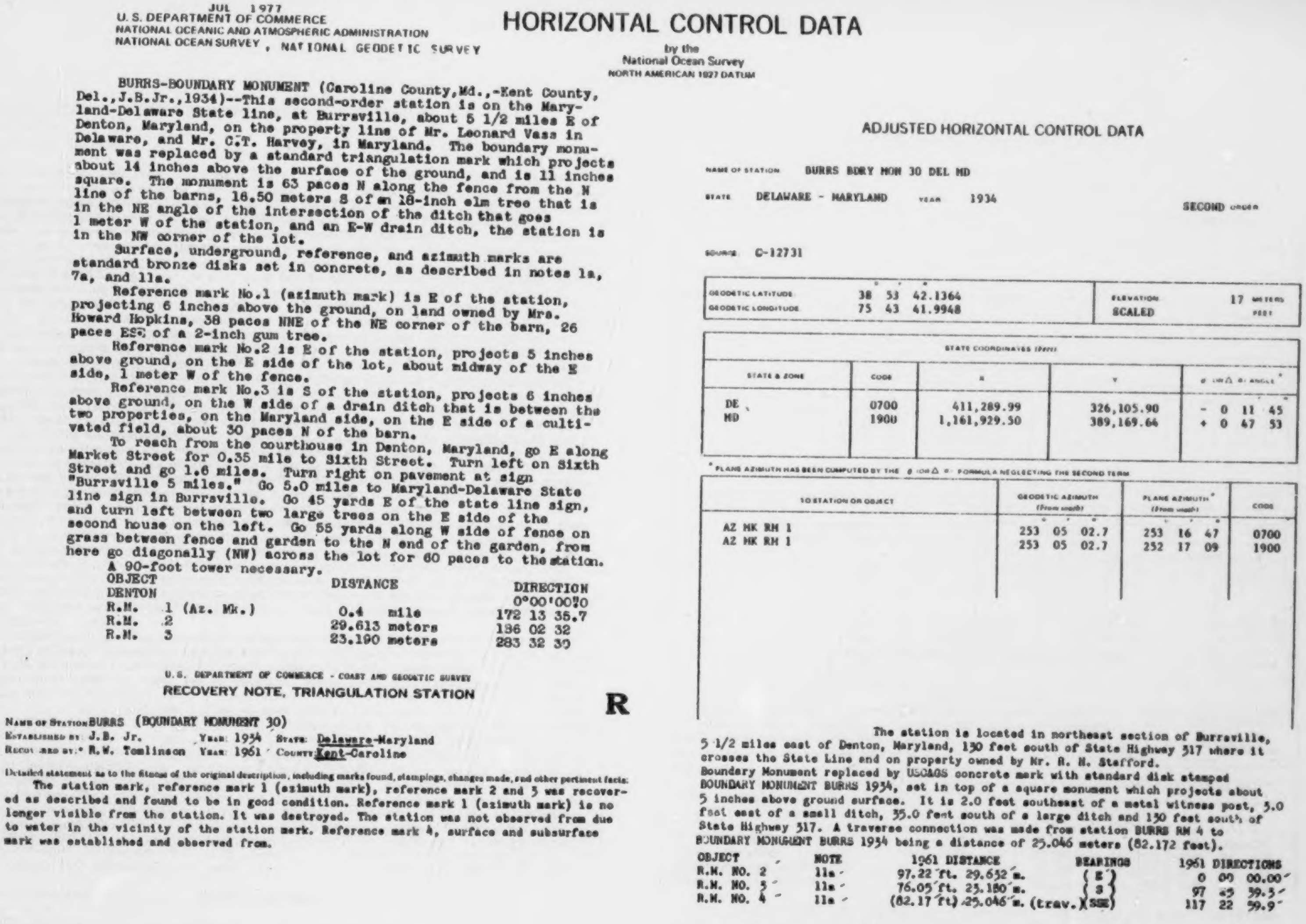
NAME OF STATION: BOYCE
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Maryland
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Wicomico BENCH MARK ALSO ☐
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 1/2 miles northeast of Sharptown
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK (VG)	NW		238.0	0 00 00.00
RM 2	NW	31.59	9.627	18 00 57
BOUNDARY MONUMENT 7	E		152.340	166 11 41.3
RM 1	SSE	24.31	7.410	223 15 01

The station and all marks were recovered and found in good condition as previously described. The distances and directions to all marks were within close agreement with the previous observations.

The Maryland-Delaware Boundary Monument number 7 was set at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

BURRS-BOUNDARY MONUMENT (Caroline County,Md.,-Kent County, Del.,J.B.Jr.,1934)--This second-order station is on the Maryland-Delaware State line, at Burrsville, about 5 1/2 miles E of Denton, Maryland, on the property line of Mr. Leonard Vass in Delaware, and Mr. C.T. Harvey, in Maryland. The boundary monument was replaced by a standard triangulation mark which projects about 14 inches above the surface of the ground, and is 11 inches square. The monument is 63 paces N along the fence from the N line of the barns, 16.50 meters S of an 18-inch elm tree that is in the NE angle of the intersection of the ditch that goes 1 meter W of the station, and an E-W drain ditch, the station is in the NW corner of the lot.

Surface, underground, reference, and azimuth marks are standard bronze disks set in concrete, as described in notes 1a, 7a, and 11a.

Reference mark No.1 (azimuth mark) is E of the station, projecting 6 inches above the ground, on land owned by Mrs. Howard Hopkins, 38 paces NNE of the NE corner of the barn, 26 paces ESE of a 2-inch gum tree.

Reference mark No.2 is E of the station, projects 5 inches above ground, on the E side of the lot, about midway of the E side, 1 meter W of the fence.

Reference mark No.3 is S of the station, projects 6 inches above ground, on the W side of a drain ditch that is between the two properties, on the Maryland side, on the E side of a cultivated field, about 30 paces N of the barn.

To reach from the courthouse in Denton, Maryland, go E along Market Street for 0.35 mile to Sixth Street. Turn left on Sixth Street and go 1.6 miles. Turn right on pavement at sign "Burrsville 5 miles." Go 5.0 miles to Maryland-Delaware State line sign in Burrsville. Go 45 yards E of the state line sign, and turn left between two large trees on the E side of the second house on the left. Go 55 yards along W side of fence on grass between fence and garden to the N end of the garden, from here go diagonally (NW) across the lot for 60 paces to the station.

A 90-foot tower necessary.

OBJECT		DISTANCE	DIRECTION
DENTON			0°00'00"0
R.M.	1 (Az. Mk.)	0.4 mile	172 13 35.7
R.M.	2	29.613 meters	136 02 32
R.M.	3	23.190 meters	283 32 30

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

Name of Station BURRS (BOUNDARY MONUMENT 30)
Established by: J.B. Jr. Year: 1934 State: Delaware-Maryland
Recovered by: R.W. Tomlinson Year: 1961 County: Kent-Caroline

Detailed statement as to the fitness of the original description, including marks found, stampings, changes made, and other pertinent facts:

The station mark, reference mark 1 (azimuth mark), reference mark 2 and 3 was recovered as described and found to be in good condition. Reference mark 1 (azimuth mark) is no longer visible from the station. It was destroyed. The station was not observed from due to water in the vicinity of the station mark. Reference mark 4, surface and subsurface mark was established and observed from.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION BURRS BDRY MON 30 DEL MD

STATE DELAWARE - MARYLAND YEAR 1934 SECOND ORDER

SOURCE C-12731

GEODETIC LATITUDE	38° 53' 42.1364"	ELEVATION	17 METERS
GEODETIC LONGITUDE	75 43 41.9948	SCALED	FEET

STATE COORDINATES (Feet)

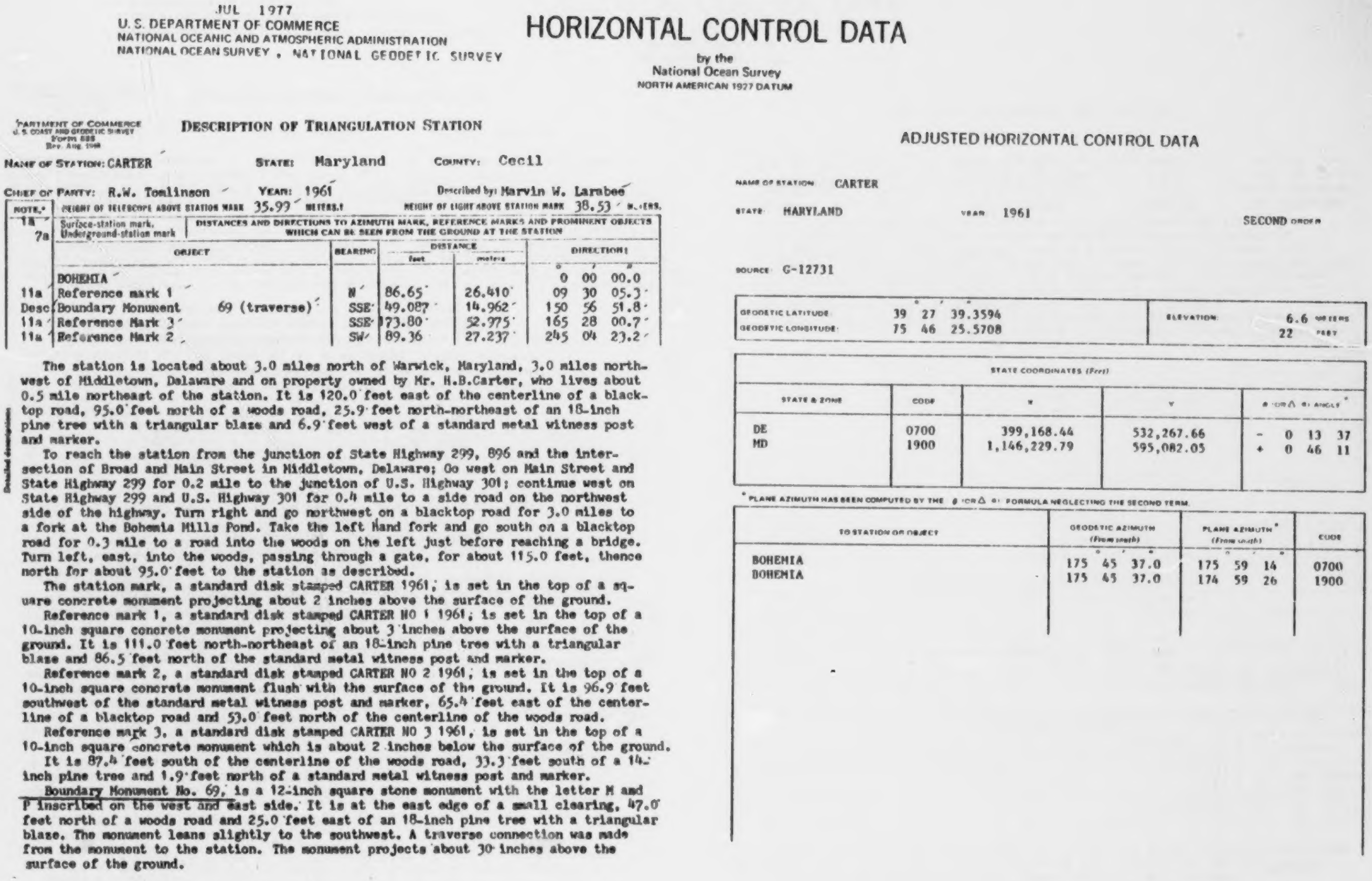
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE *
DE	0700	411,289.99	326,105.90	- 0 11 45
MD	1900	1,161,929.50	389,169.64	+ 0 47 53

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH * (From south)	CODE
AZ MK RM 1	253 05 02.7	253 16 47	0700
AZ MK RM 1	253 05 02.7	252 17 09	1900

The station is located in northeast section of Burrsville, 5 1/2 miles east of Denton, Maryland, 130 feet south of State Highway 317 where it crosses the State Line and on property owned by Mr. R. H. Stafford. Boundary Monument replaced by USC&GS concrete mark with standard disk stamped BOUNDARY MONUMENT BURRS 1934, set in top of a square monument which projects about 5 inches above ground surface. It is 2.0 feet southeast of a metal witness post, 3.0 feet east of a small ditch, 35.0 feet south of a large ditch and 130 feet south of State Highway 317. A traverse connection was made from station BURRS RM 4 to BOUNDARY MONUMENT BURRS 1934 being a distance of 25.046 meters (82.172 feet).

OBJECT	NOTE	1961 DISTANCE	BEARINGS	1961 DIRECTIONS
R.M. NO. 2	11a	97.22 ft. 29.632 m.	(E)	0 00 00.00
R.M. NO. 3	11a	76.05 ft. 23.180 m.	(S)	97 45 39.3
R.M. NO. 4	11a	(82.17 ft) 25.046 m. (trav.)	(SSE)	117 22 59.9



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

PARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CARTER STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: Marvin W. Larabee

NOTE.* 1a 7a — HEIGHT OF TELESCOPE ABOVE STATION MARK 35.99 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 38.53 METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION† ° ′ ″
	BOHEMIA				0 00 00.0
11a	Reference mark 1	N	86.65	26.410	09 30 05.3
Desc	Boundary Monument 69 (traverse)	SSE	49.087	14.962	150 56 51.8
11a	Reference Mark 3	SSE	173.80	52.975	165 28 00.7
11a	Reference Mark 2	SW	89.36	27.237	245 04 23.2

The station is located about 3.0 miles north of Warwick, Maryland, 3.0 miles northwest of Middletown, Delaware and on property owned by Mr. H.B.Carter, who lives about 0.5 mile northeast of the station. It is 120.0 feet east of the centerline of a blacktop road, 95.0 feet north of a woods road, 25.9 feet north-northeast of an 18-inch pine tree with a triangular blaze and 6.9 feet west of a standard metal witness post and marker.

To reach the station from the junction of State Highway 299, 896 and the intersection of Broad and Main Street in Middletown, Delaware; Go west on Main Street and State Highway 299 for 0.2 mile to the junction of U.S. Highway 301; continue west on State Highway 299 and U.S. Highway 301 for 0.4 mile to a side road on the northwest side of the highway. Turn right and go northwest on a blacktop road for 3.0 miles to a fork at the Bohemia Mills Pond. Take the left Hand fork and go south on a blacktop road for 0.3 mile to a road into the woods on the left just before reaching a bridge. Turn left, east, into the woods, passing through a gate, for about 115.0 feet, thence north for about 95.0 feet to the station as described.

The station mark, a standard disk stamped CARTER 1961, is set in the top of a square concrete monument projecting about 2 inches above the surface of the ground.

Reference mark 1, a standard disk stamped CARTER NO 1 1961, is set in the top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 111.0 feet north-northeast of an 18-inch pine tree with a triangular blaze and 86.5 feet north of the standard metal witness post and marker.

Reference mark 2, a standard disk stamped CARTER NO 2 1961, is set in the top of a 10-inch square concrete monument flush with the surface of the ground. It is 96.9 feet southwest of the standard metal witness post and marker, 65.4 feet east of the centerline of a blacktop road and 53.0 feet north of the centerline of the woods road.

Reference mark 3, a standard disk stamped CARTER NO 3 1961, is set in the top of a 10-inch square concrete monument which is about 2 inches below the surface of the ground. It is 87.4 feet south of the centerline of the woods road, 33.3 feet south of a 14-inch pine tree and 1.9 feet north of a standard metal witness post and marker.

Boundary Monument No. 69, is a 12-inch square stone monument with the letter M and P inscribed on the west and east side. It is at the east edge of a small clearing, 47.0 feet north of a woods road and 25.0 feet east of an 18-inch pine tree with a triangular blaze. The monument leans slightly to the southwest. A traverse connection was made from the monument to the station. The monument projects about 30 inches above the surface of the ground.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION CARTER

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

	° ′ ″		
GEODETIC LATITUDE	39 27 39.3594	ELEVATION	6.6 METERS
GEODETIC LONGITUDE	75 46 25.5708		22 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	399,168.44	532,267.66	- 0 13 37
MD	1900	1,146,229.79	595,082.05	+ 0 46 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
BOHEMIA	175 45 37.0	175 59 14	0700
BOHEMIA	175 45 37.0	174 59 26	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CHARLES STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 28.80 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 31 METERS.

NOTE.*	Surface-station mark, Underground-station mark				
1a 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	OAK GROVE 1934				00° 00′ 00.0″
16a	Azimuth mark	SSW	Approx. 0.18 mile		24 15 16.5
11a	Reference Mark 1	NE	87.865	26.780	224 19 52.3
11a	Reference Mark 2	SSE	76.62	23.352	344 15 20.1

The station is located about 6.0 miles west of Bridgeville, Delaware, 5.0 miles northeast of Federalsburg and on property owned by Mr. Charles Mitchell, who lives west-southwest across the road from the station.

To reach the station from the intersection of Main Street and Central Avenue in Federalsburg, Maryland; go east on State Highway 318, East Central Avenue, for 0.35 mile to the junction of State Highways 318 and 306. Take the left fork and go north-north-east on State Highway 306 for 4.2 miles to a Y-fork. Take the left fork , a graveled road and go north-northeast on the graveled road for 0.5 mile to powerline pole No. 61-110, a standard metal witness post and marker and the azimuth mark on the right, east, side of the graveled road. Continue north-northeast on the graveled road for 0.18 mile to the corner of the tall pine woods on the left. Turn left and go northeast on a dim track woods road through small brush for 0.05 mile to a standard metal witness post and marker and the station.

The station mark, a standard disk stamped CHARLES 1962, is set in top of a 10-inch square concrete monument about 24 inches below the surface of the ground. It is 88.2 feet south-southwest of a standard metal witness post and marker, 77.3 feet north of another standard metal witness post and marker and 50.6 feet west of a 14-inch pine tree.

Reference mark 1, a standard disk stamped CHARLES NO 1 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 69.2 feet north of a 14-inch pine tree and 1.3 feet west of a standard metal witness post and marker.

Reference mark 2, a standard disk stamped CHARLES NO 2 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 29.2 feet north-northeast of the northeast corner of a cultivated field, 6.6 feet south of a 14-inch oak tree and 1.3 feet west of a standard metal witness post and marker.

The azimuth mark, a standard disk stamped CHARLES 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 34.0 feet east of the centerline of a graveled road, 2.0 feet north of powerline pole No. 61-110 and 1.0 feet north of a standard metal witness post and marker.

Boundary Monument No. 20. The top portion was found lying in the woods about 66.0 feet east of the northeast corner of a cultivated field, in a low woods area, under water on this date, about 5.0 feet northeast of a large dead tree trunk that is about 30 inches high. The top portion of the monument is about 36 inches long; no evidence of the base part was located. It is a 12-inch square limestone monument with the Coat of Arms on two sides. The monument was not traversed to or intersected on this date.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CHARLES

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38° 45′ 00.5453″	ELEVATION:	12.1 METERS
GEODETIC LONGITUDE:	75 43 01.3955		40 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	414,326.52	273,326.89	− 0° 11′ 17″
MD	1900	1,165,880.53	336,454.03	+ 0 48 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	20° 36′ 27.7″	20° 47′ 45″	0700
AZIMUTH MARK	20 36 27.7	19 48 09	1900

RECOVERY NOTE, TRIANGULATION STATION

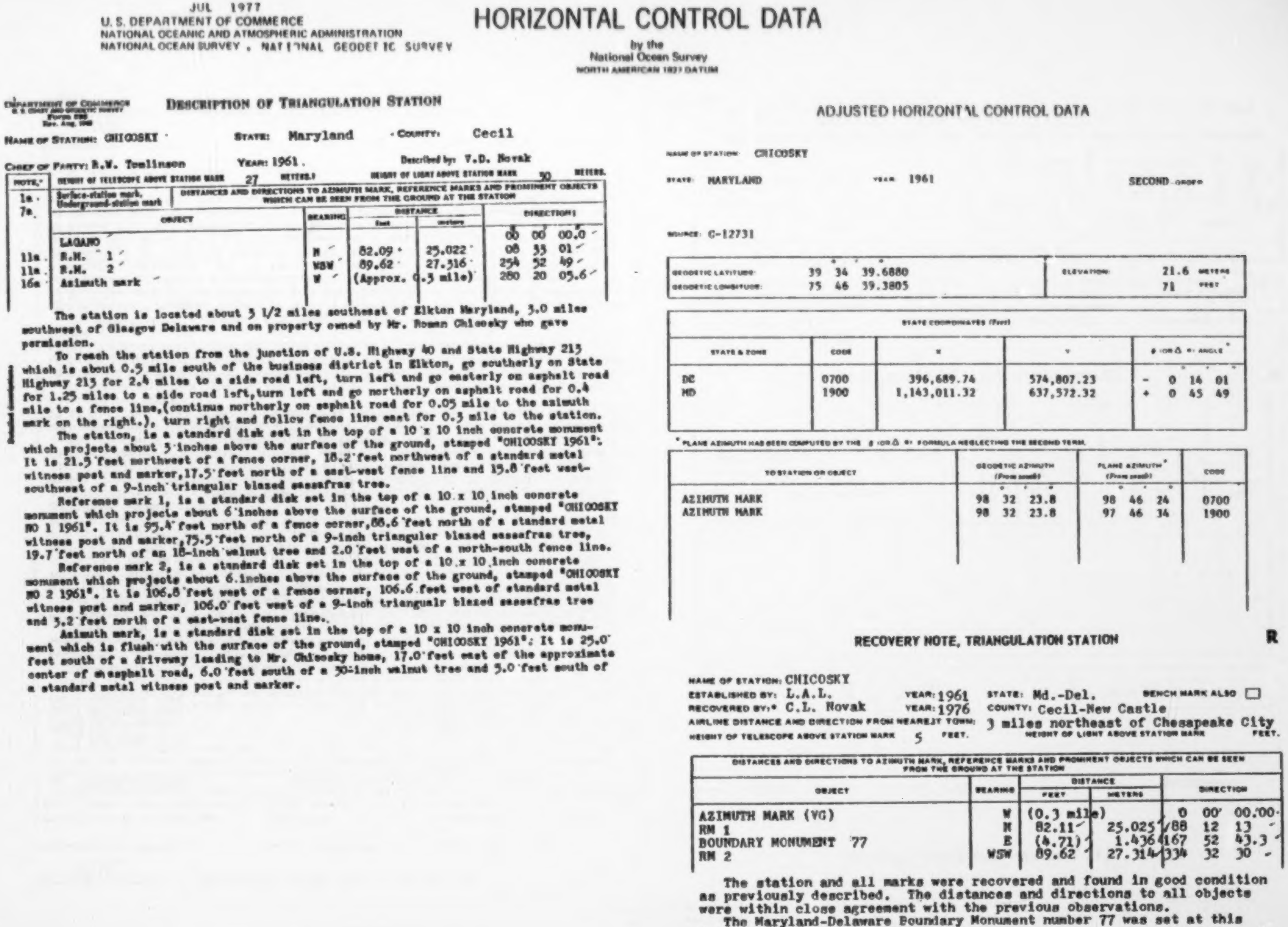
R

NAME OF STATION: CHARLES
ESTABLISHED BY: L.A.L. YEAR: 1962 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Caroline
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 5 miles northeast of Federalsburg
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	SSW	(0.2 mile)		0 00 00.00
RM 1	NE	87.85	26.776	200 04 46
BOUNDARY MONUMENT 20	E	61.26	18.673	245 50 38.6
RM 2	SSE	76.61	23.350	319 59 57

The station and all marks were recovered and found in good condition as previously described.

The Maryland-Delaware Boundary Monument number 20 was reset at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: CHICOSKI STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961. Described by: V.D. Novak

HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
1a. 7a.	Surface-station mark, Underground-station mark				
	LAGANO				00 00 00.0
11a.	R.M. 1	N	82.09	25.022	08 33 01
11a.	R.M. 2	WSW	89.62	27.316	254 52 49
16a	Azimuth mark	W	(Approx. 0.3 mile)		280 20 05.6

The station is located about 3 1/2 miles southeast of Elkton Maryland, 3.0 miles southwest of Glasgow Delaware and on property owned by Mr. Roman Chicosky who gave permission.

To reach the station from the junction of U.S. Highway 40 and State Highway 213 which is about 0.5 mile south of the business district in Elkton, go southerly on State Highway 213 for 2.4 miles to a side road left, turn left and go easterly on asphalt road for 1.25 miles to a side road left, turn left and go northerly on asphalt road for 0.4 mile to a fence line,(continue northerly on asphalt road for 0.05 mile to the azimuth mark on the right.), turn right and follow fence line east for 0.3 mile to the station.

The station, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped "CHICOSKY 1961". It is 21.3 feet northwest of a fence corner, 18.2 feet northwest of a standard metal witness post and marker, 17.5 feet north of a east-west fence line and 15.8 feet west-southwest of a 9-inch triangular blazed sassafras tree.

Reference mark 1, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 6 inches above the surface of the ground, stamped "CHICOSKY NO 1 1961". It is 95.4 feet north of a fence corner, 88.6 feet north of a standard metal witness post and marker, 75.5 feet north of a 9-inch triangular blazed sassafras tree, 19.7 feet north of an 18-inch walnut tree and 2.0 feet west of a north-south fence line.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 6 inches above the surface of the ground, stamped "CHICOSKY NO 2 1961". It is 106.8 feet west of a fence corner, 106.6 feet west of standard metal witness post and marker, 106.0 feet west of a 9-inch triangualr blazed sassafras tree and 3.2 feet north of a east-west fence line.

Azimuth mark, is a standard disk set in the top of a 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "CHICOSKY 1961". It is 25.0 feet south of a driveway leading to Mr. Chicosky home, 17.0 feet east of the approximate center of asphalt road, 6.0 feet south of a 30-inch walnut tree and 3.0 feet south of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: CHICOSKY
STATE: MARYLAND YEAR: 1961 SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE:	39° 34′ 39.6880″	ELEVATION:	21.6 METERS
GEODETIC LONGITUDE:	75° 46′ 39.3805″		71 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	396,689.74	574,807.23	- 0° 14′ 01″
MD	1900	1,143,011.32	637,572.32	+ 0° 45′ 49″

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	98° 32′ 23.8″	98° 46′ 24″	0700
AZIMUTH MARK	98° 32′ 23.8″	97° 46′ 34″	1900

RECOVERY NOTE, TRIANGULATION STATION

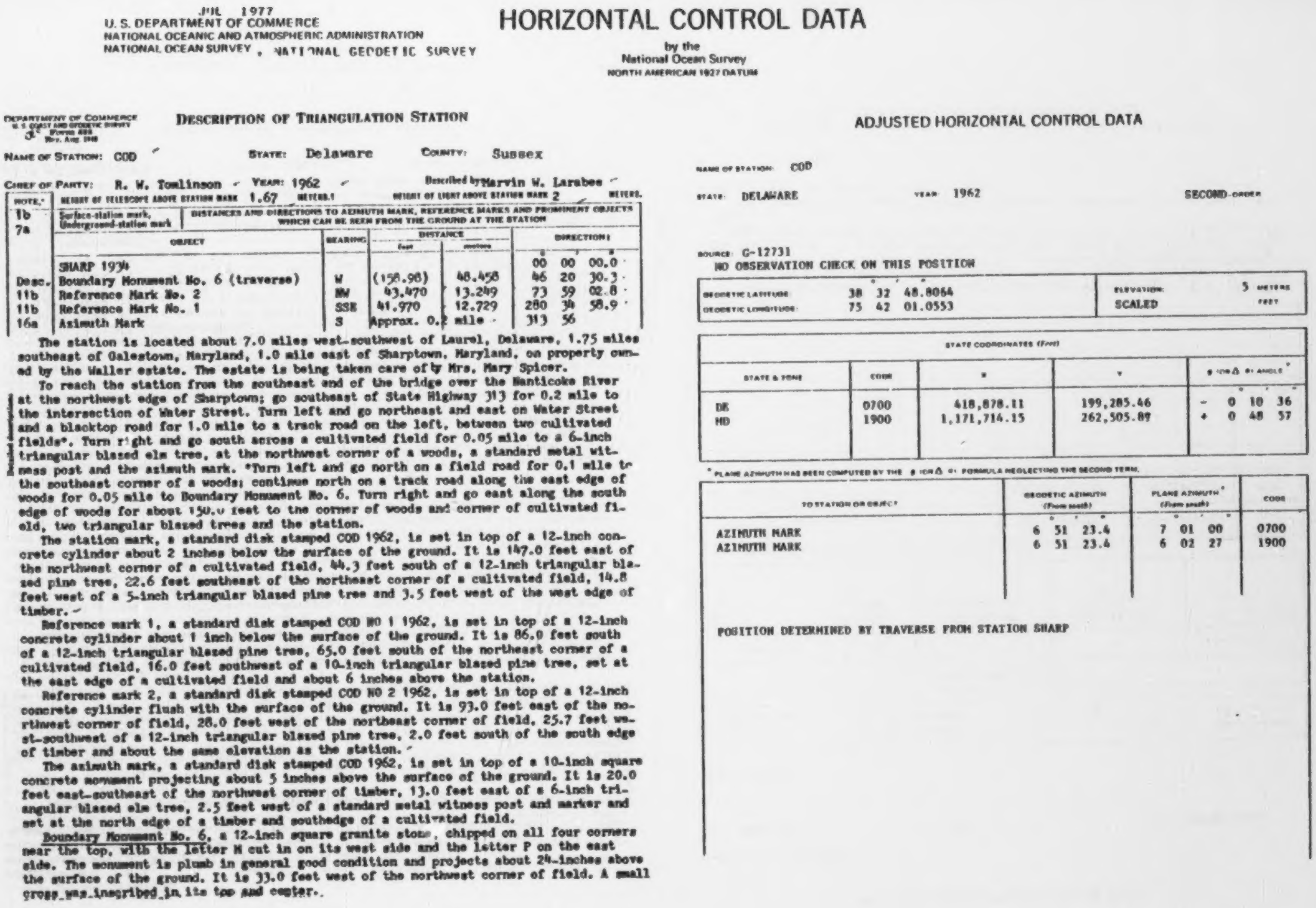
R

NAME OF STATION: CHICOSKY
ESTABLISHED BY: L.A.L. YEAR: 1961 STATE: Md.-Del. BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Cecil-New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles northeast of Chesapeake City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK (VG)	W	(0.3 mile)		0 00 00.00
RM 1	N	82.11	25.025	88 12 13
BOUNDARY MONUMENT 77	E	(4.71)	1.436	167 52 43.3
RM 2	WSW	89.62	27.314	334 32 30

The station and all marks were recovered and found in good condition as previously described. The distances and directions to all objects were within close agreement with the previous observations.

The Maryland-Delaware Boundary Monument number 77 was set at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: COD STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.67 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	DIRECTION ′	DIRECTION ″
1b	Surface-station mark,						
7a	Underground-station mark						
	SHARP 1934				00	00	00.0
Desc.	Boundary Monument No. 6 (traverse)	W	(158.98)	48.458	46	20	30.3
11b	Reference Mark No. 2	NW	43.470	13.249	73	59	02.8
11b	Reference Mark No. 1	SSE	41.970	12.729	280	34	58.9
16a	Azimuth Mark	S	Approx. 0.2 mile		313	56	

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

The station is located about 7.0 miles west-southwest of Laurel, Delaware, 1.75 miles southeast of Galestown, Maryland, 1.0 mile east of Sharptown, Maryland, on property owned by the Waller estate. The estate is being taken care of by Mrs. Mary Spicer.

To reach the station from the southeast end of the bridge over the Nanticoke River at the northwest edge of Sharptown; go southeast of State Highway 313 for 0.2 mile to the intersection of Water Street. Turn left and go northeast and east on Water Street and a blacktop road for 1.0 mile to a track road on the left, between two cultivated fields*. Turn right and go south across a cultivated field for 0.05 mile to a 6-inch triangular blazed elm tree, at the northwest corner of a woods, a standard metal witness post and the azimuth mark. *Turn left and go north on a field road for 0.1 mile to the southeast corner of a woods; continue north on a track road along the east edge of woods for 0.05 mile to Boundary Monument No. 6. Turn right and go east along the south edge of woods for about 150.0 feet to the corner of woods and corner of cultivated field, two triangular blazed trees and the station.

The station mark, a standard disk stamped COD 1962, is set in top of a 12-inch concrete cylinder about 2 inches below the surface of the ground. It is 147.0 feet east of the northwest corner of a cultivated field, 44.3 feet south of a 12-inch triangular blazed pine tree, 22.6 feet southeast of the northeast corner of a cultivated field, 14.8 feet west of a 5-inch triangular blazed pine tree and 3.5 feet west of the west edge of timber.

Reference mark 1, a standard disk stamped COD NO 1 1962, is set in top of a 12-inch concrete cylinder about 1 inch below the surface of the ground. It is 86.0 feet south of a 12-inch triangular blazed pine tree, 65.0 feet south of the northeast corner of a cultivated field, 16.0 feet southwest of a 10-inch triangular blazed pine tree, set at the east edge of a cultivated field and about 6 inches above the station.

Reference mark 2, a standard disk stamped COD NO 2 1962, is set in top of a 12-inch concrete cylinder flush with the surface of the ground. It is 93.0 feet east of the northwest corner of field, 28.0 feet west of the northeast corner of field, 25.7 feet west-southwest of a 12-inch triangular blazed pine tree, 2.0 feet south of the south edge of timber and about the same elevation as the station.

The azimuth mark, a standard disk stamped COD 1962, is set in top of a 10-inch square concrete monument projecting about 5 inches above the surface of the ground. It is 20.0 feet east-southeast of the northwest corner of timber, 13.0 feet east of a 6-inch triangular blazed elm tree, 2.5 feet west of a standard metal witness post and marker and set at the north edge of a timber and southedge of a cultivated field.

Boundary Monument No. 6, a 12-inch square granite stone, chipped on all four corners near the top, with the letter M cut in on its west side and the letter P on the east side. The monument is plumb in general good condition and projects about 24-inches above the surface of the ground. It is 33.0 feet west of the northwest corner of field. A small cross was inscribed in its top and center.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: COD

STATE: DELAWARE YEAR: 1962 SECOND-ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	
GEODETIC LATITUDE:	38	32	48.8064	ELEVATION: 5 METERS
GEODETIC LONGITUDE:	75	42	01.0553	SCALED FEET

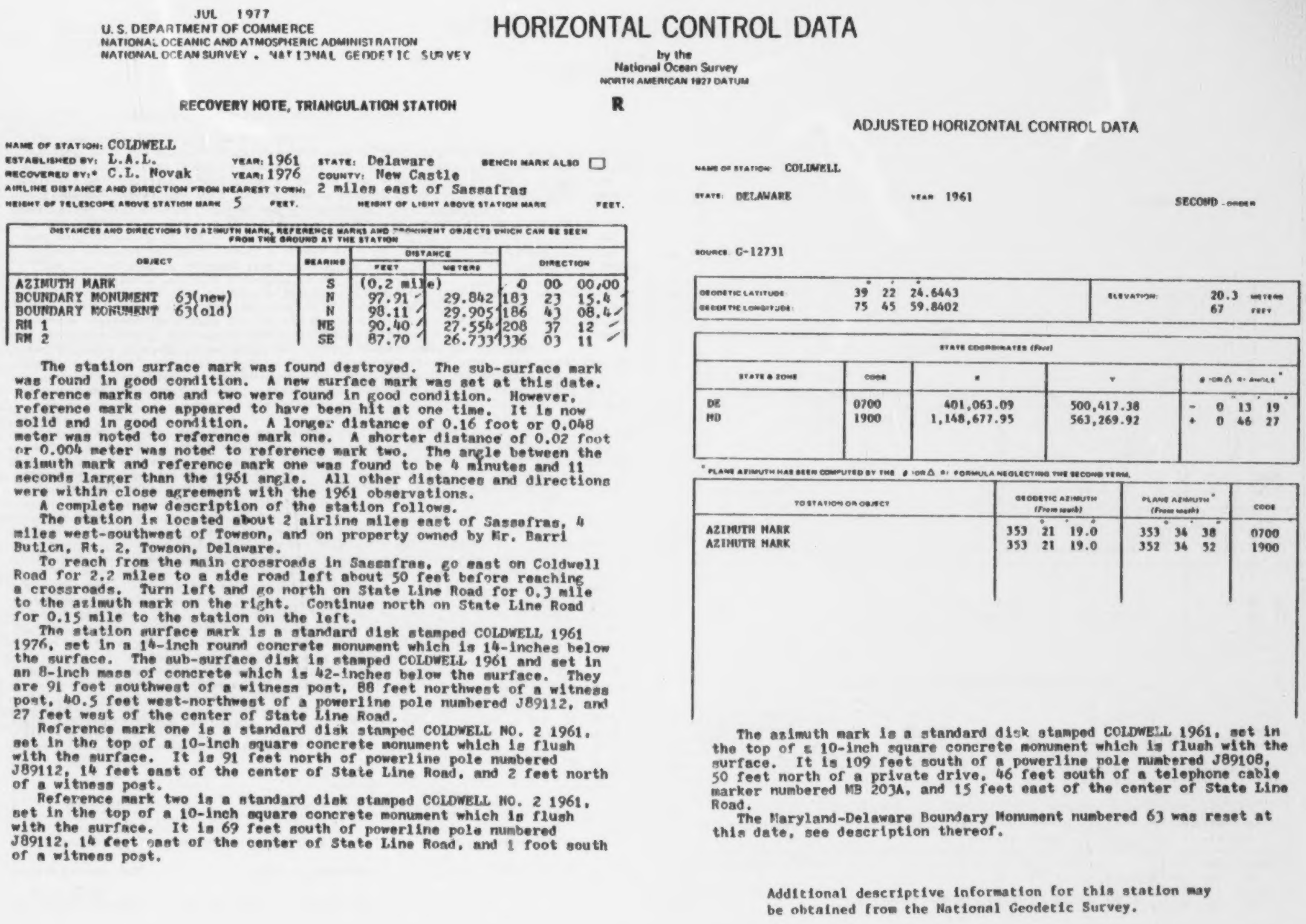
STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	418,878.11	199,285.46	- 0 10 36
MD	1900	1,171,714.15	262,505.89	+ 0 48 57

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	6 51 23.4	7 01 00	0700
AZIMUTH MARK	6 51 23.4	6 02 27	1900

POSITION DETERMINED BY TRAVERSE FROM STATION SHARP



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: COLDWELL
ESTABLISHED BY: L.A.L. YEAR: 1961 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles east of Sassafras
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
AZIMUTH MARK	S	(0.2 mile)		0 00 00.00
BOUNDARY MONUMENT 63(new)	N	97.91	29.842	183 23 15.4
BOUNDARY MONUMENT 63(old)	N	98.11	29.905	186 43 08.4
RM 1	NE	90.40	27.554	208 37 12
RM 2	SE	87.70	26.733	336 03 11

The station surface mark was found destroyed. The sub-surface mark was found in good condition. A new surface mark was set at this date. Reference marks one and two were found in good condition. However, reference mark one appeared to have been hit at one time. It is now solid and in good condition. A longer distance of 0.16 foot or 0.048 meter was noted to reference mark one. A shorter distance of 0.02 foot or 0.004 meter was noted to reference mark two. The angle between the azimuth mark and reference mark one was found to be 4 minutes and 11 seconds larger than the 1961 angle. All other distances and directions were within close agreement with the 1961 observations.

A complete new description of the station follows.

The station is located about 2 airline miles east of Sassafras, 4 miles west-southwest of Towson, and on property owned by Mr. Barri Butlcn, Rt. 2, Towson, Delaware.

To reach from the main crossroads in Sassafras, go east on Coldwell Road for 2.2 miles to a side road left about 50 feet before reaching a crossroads. Turn left and go north on State Line Road for 0.3 mile to the azimuth mark on the right. Continue north on State Line Road for 0.15 mile to the station on the left.

The station surface mark is a standard disk stamped COLDWELL 1961 1976, set in a 14-inch round concrete monument which is 14-inches below the surface. The sub-surface disk is stamped COLDWELL 1961 and set in an 8-inch mass of concrete which is 42-inches below the surface. They are 91 feet southwest of a witness post, 88 feet northwest of a witness post, 40.5 feet west-northwest of a powerline pole numbered J89112, and 27 feet west of the center of State Line Road.

Reference mark one is a standard disk stamped COLDWELL NO. 2 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 91 feet north of powerline pole numbered J89112, 14 feet east of the center of State Line Road, and 2 feet north of a witness post.

Reference mark two is a standard disk stamped COLDWELL NO. 2 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 69 feet south of powerline pole numbered J89112, 14 feet east of the center of State Line Road, and 1 foot south of a witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: COLDWELL
STATE: DELAWARE YEAR 1961 SECOND - ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 22′ 24.6443″	ELEVATION:	20.3 METERS
GEODETIC LONGITUDE:	75 45 59.8402		67 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	401,063.09	500,417.38	− 0° 13′ 19″
MD	1900	1,148,677.95	563,269.92	+ 0 46 27

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	353° 21′ 19.0″	353° 34′ 38″	0700
AZIMUTH MARK	353 21 19.0	352 34 52	1900

The azimuth mark is a standard disk stamped COLDWELL 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 109 feet south of a powerline pole numbered J89108, 50 feet north of a private drive, 46 feet south of a telephone cable marker numbered MB 203A, and 15 feet east of the center of State Line Road.

The Maryland-Delaware Boundary Monument numbered 63 was reset at this date, see description thereof.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1961

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: COLUMBIA STATE: Maryland COUNTY: Wicomico

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: V.D. Novak

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

1a None — Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	COOPER RM 4				00 00 00.0
11a	Reference mark 1	SSW	81.69	24.899	101 29 29.2
11a	Reference mark 3	SW	200.916	61.240	123 52 50.6
11a	Reference mark 2	WNW	81.33	24.789	202 09 45.4
Desc.	Boundary Monument # 3. (Traverse)	E	(83.149)	25.344	351 55 40.4

The station is located about 7 1/2 miles southwest of Laurel, Delaware, 4 1/2 miles north-northwest of Galestown, Maryland, 3.0 miles south-southeast of Sharptown, Maryland and on property owned by Mr. E. O. Wheatley at 407 Anne Street in Salisbury, Maryland his phone number is PI 2-1111 who gave permission.

To reach the station from the crossroads in Sharptown, Maryland go southeasterly on State Highway 348 for 1.7 miles to the Maryland-Delaware State Line, continue east on Delaware State Highway 24 for 1.0 mile to a crossroad, turn right and go southerly on paved road for 1.5 miles to a crossroad at the Columbia Church and Store, turn right and go westerly on asphalt road for 1.0 mile to a fork and Delaware-Maryland State Line, turn right and go northwest on dirt road for 0.2 mile to a fork, take right fork and go northwesterly on dirt road for 0.2 mile to a crossroad, turn right and go east on dirt road for 0.2 mile to the farm house of Mr. Haymon Brown house, continue around the left side of the house for 0.15 mile to a dim woods road right, turn right and follow woods road for 160 paces to reference mark 3, here pack north east for 200.916 feet to the station.

Station is a standard disk set in the top of 10 x 10 inch concrete monument which projects about 2 inches above the surface of the ground, stamped COLUMBIA 1962. There was not a underground mark set at this station due to water in the mark hole. It is 24.6 feet southeast of a 10-inch pine tree and 2.5 feet southwest of a standard metal witness post and marker.

Reference mark 1 is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 4 inches above the surface of the ground, stamped COLUMBIA NO 1 1962. It is 83.9 feet south of a standard metal witness post and marker and 4.0 feet west of a 8-inch oak tree.

Reference mark 2 is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped COLUMBIA NO 2 1962. It is 81.8 feet west-northwest of a standard metal witness post and marker, 17.0 feet north of a 10-inch pine tree and 7.0 feet east of a 8-inch oak tree.

Reference mark 3 is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped COLUMBIA NO 3 1962. It is 15.5 feet south of a track road and 1.4 feet north of a standard metal witness post and marker.

Boundary Monument # 3 is a 12 x 12 inch square granite stone which projects about 24 inches above the surface of the ground. It has the letter M on the west side of the monument and the letter P on the east side. It is leaning to the south alittle. It was traversed to a cross was inscribed on the top. It is 81.2 feet east of a standard metal witness post and marker, 7.8 feet north of a 10-inch oak tree and 6.5 feet south of a 16-inch oak tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION COLUMBIA

STATE MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731

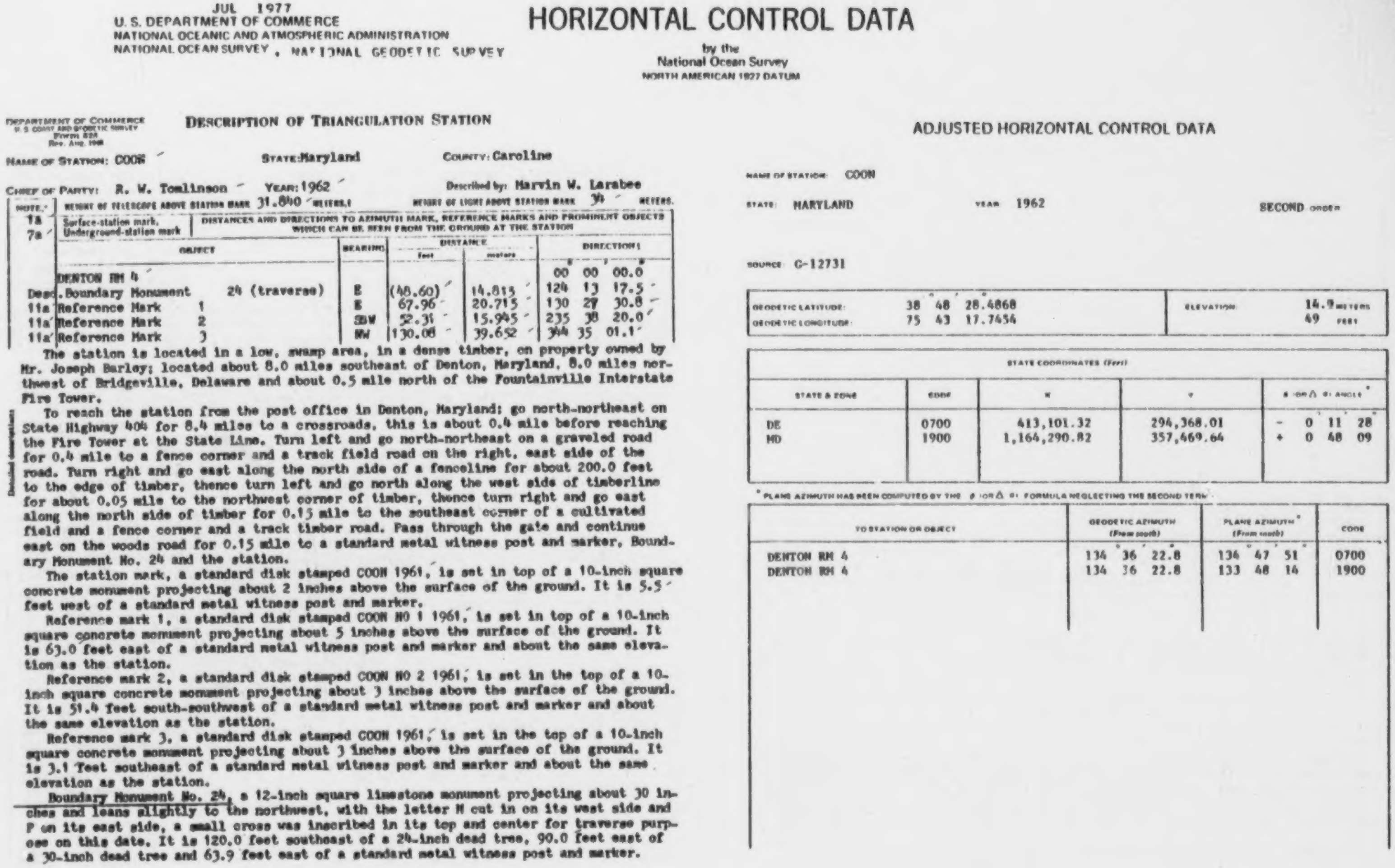
GEODETIC LATITUDE:	38° 30′ 12″.4312	ELEVATION:	11.1 METERS
GEODETIC LONGITUDE:	75 41 51.7783		36 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	419,366.63	183,463.88	− 0° 10′ 30″
MD	1900	1,172,676.76	246,699.15	+ 0 49 03

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
COOPER RM 4	274° 15′ 59″.0	274° 26′ 29″	0700
COOPER RM 4	274 15 59.0	273 26 57	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1961

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: COON
STATE: Maryland
COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson
YEAR: 1962
Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.840 METERS
HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS

NOTE.* 1a Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	DENTON RM 4				00 00 00.0
Desc.	Boundary Monument 24 (traverse)	E	(48.60)	14.813	124 13 17.5
11a	Reference Mark 1	E	67.96	20.715	130 27 30.8
11a	Reference Mark 2	SSW	52.31	15.945	235 38 20.0
11a	Reference Mark 3	NW	130.08	39.652	344 35 01.1

The station is located in a low, swamp area, in a dense timber, on property owned by Mr. Joseph Barley; located about 8.0 miles southeast of Denton, Maryland, 8.0 miles northwest of Bridgeville, Delaware and about 0.5 mile north of the Fountainville Interstate Fire Tower.

To reach the station from the post office in Denton, Maryland; go north-northeast on State Highway 404 for 8.4 miles to a crossroads, this is about 0.4 mile before reaching the Fire Tower at the State Line. Turn left and go north-northeast on a graveled road for 0.4 mile to a fence corner and a track field road on the right, east side of the road. Turn right and go east along the north side of a fenceline for about 200.0 feet to the edge of timber, thence turn left and go north along the west side of timberline for about 0.05 mile to the northwest corner of timber, thence turn right and go east along the north side of timber for 0.15 mile to the southeast corner of a cultivated field and a fence corner and a track timber road. Pass through the gate and continue east on the woods road for 0.15 mile to a standard metal witness post and marker, Boundary Monument No. 24 and the station.

The station mark, a standard disk stamped COON 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 5.5 feet west of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped COON NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 5 inches above the surface of the ground. It is 63.0 feet east of a standard metal witness post and marker and about the same elevation as the station.

Reference mark 2, a standard disk stamped COON NO 2 1961, is set in the top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 51.4 feet south-southwest of a standard metal witness post and marker and about the same elevation as the station.

Reference mark 3, a standard disk stamped COON 1961, is set in the top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 3.1 feet southeast of a standard metal witness post and marker and about the same elevation as the station.

Boundary Monument No. 24, a 12-inch square limestone monument projecting about 30 inches and leans slightly to the northwest, with the letter M cut in on its west side and P on its east side, a small cross was inscribed in its top and center for traverse purpose on this date. It is 120.0 feet southeast of a 24-inch dead tree, 90.0 feet east of a 30-inch dead tree and 63.9 feet east of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: COON
STATE: MARYLAND
YEAR 1962
SECOND ORDER

SOURCE G-12731

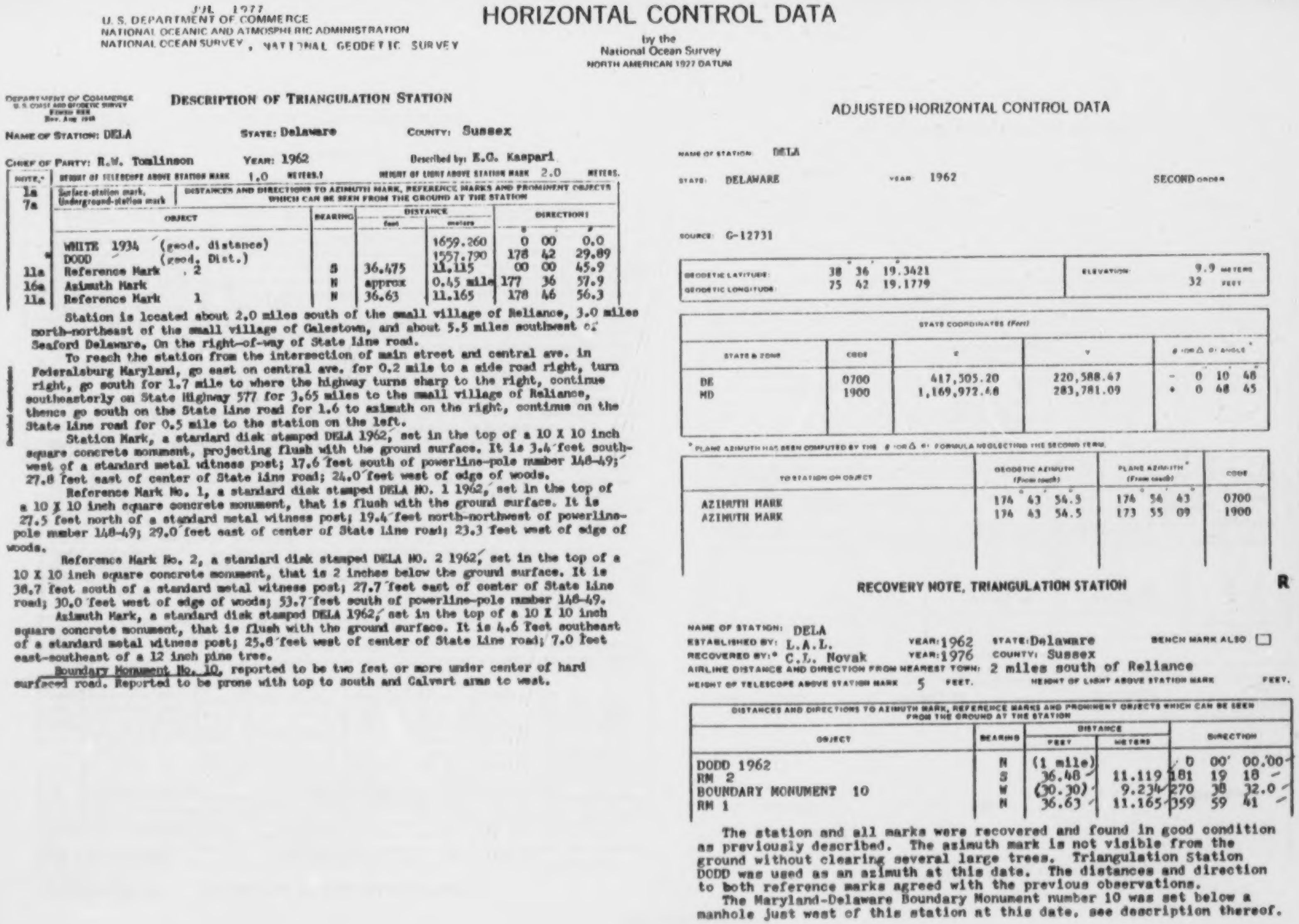
GEODETIC LATITUDE:	38 48 28.4868	ELEVATION:	14.9 METERS
GEODETIC LONGITUDE:	75 43 17.7454		49 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	413,101.32	294,368.01	- 0 11 28
MD	1900	1,164,290.82	357,469.64	+ 0 48 09

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
DENTON RM 4	134 36 22.8	136 47 51	0700
DENTON RM 4	134 36 22.8	133 48 14	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]
Rev. Aug 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DELA STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: E.G. Kaspari

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.0 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2.0 METERS.

NOTE.*	Surface-station mark, Underground-station mark: DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
1a 7a							
	WHITE 1934 (geod. distance)			1659.260	0	00	0.0
	DODD (geod. Dist.)			1557.790	178	42	29.89
11a	Reference Mark 2	S	36.475	11.115	00	00	45.9
16a	Azimuth Mark	N	approx	0.45 mile	177	36	57.9
11a	Reference Mark 1	N	36.63	11.165	178	46	56.3

Station is located about 2.0 miles south of the small village of Reliance, 3.0 miles north-northeast of the small village of Galestown, and about 5.5 miles southwest of Seaford Delaware. On the right-of-way of State line road.

To reach the station from the intersection of main street and central ave. in Federalsburg Maryland, go east on central ave. for 0.2 mile to a side road right, turn right, go south for 1.7 mile to where the highway turns sharp to the right, continue southeasterly on State Highway 577 for 3.65 miles to the small village of Reliance, thence go south on the State line road for 1.6 to azimuth on the right, continue on the State line road for 0.5 mile to the station on the left.

Station Mark, a standard disk stamped DELA 1962, set in the top of a 10 X 10 inch square concrete monument, projecting flush with the ground surface. It is 3.4 feet southwest of a standard metal witness post; 17.6 feet south of powerline-pole number 148-49; 27.8 feet east of center of State line road; 24.0 feet west of edge of woods.

Reference Mark No. 1, a standard disk stamped DELA NO. 1 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 27.5 feet north of a standard metal witness post; 19.4 feet north-northwest of powerline-pole number 148-49; 29.0 feet east of center of State Line road; 23.3 feet west of edge of woods.

Reference Mark No. 2, a standard disk stamped DELA NO. 2 1962, set in the top of a 10 X 10 inch square concrete monument, that is 2 inches below the ground surface. It is 38.7 feet south of a standard metal witness post; 27.7 feet east of center of State Line road; 30.0 feet west of edge of woods; 53.7 feet south of powerline-pole number 148-49.

Azimuth Mark, a standard disk stamped DELA 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 4.6 feet southeast of a standard metal witness post; 25.8 feet west of center of State Line road; 7.0 feet east-southeast of a 12 inch pine tree.

Boundary Monument No. 10, reported to be two feet or more under center of hard surfaced road. Reported to be prone with top to south and Calvert arms to west.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DELA

STATE: DELAWARE YEAR: 1962 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38° 36′ 19.3421″	ELEVATION: 9.9 METERS
GEODETIC LONGITUDE:	75 42 19.1779	32 FEET

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	417,505.20	220,588.47	- 0° 10′ 48″
MD	1900	1,169,972.48	283,781.09	+ 0 48 45

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	176° 43′ 54.5″	176° 54′ 43″	0700
AZIMUTH MARK	176 43 54.5	173 55 09	1900

RECOVERY NOTE, TRIANGULATION STATION

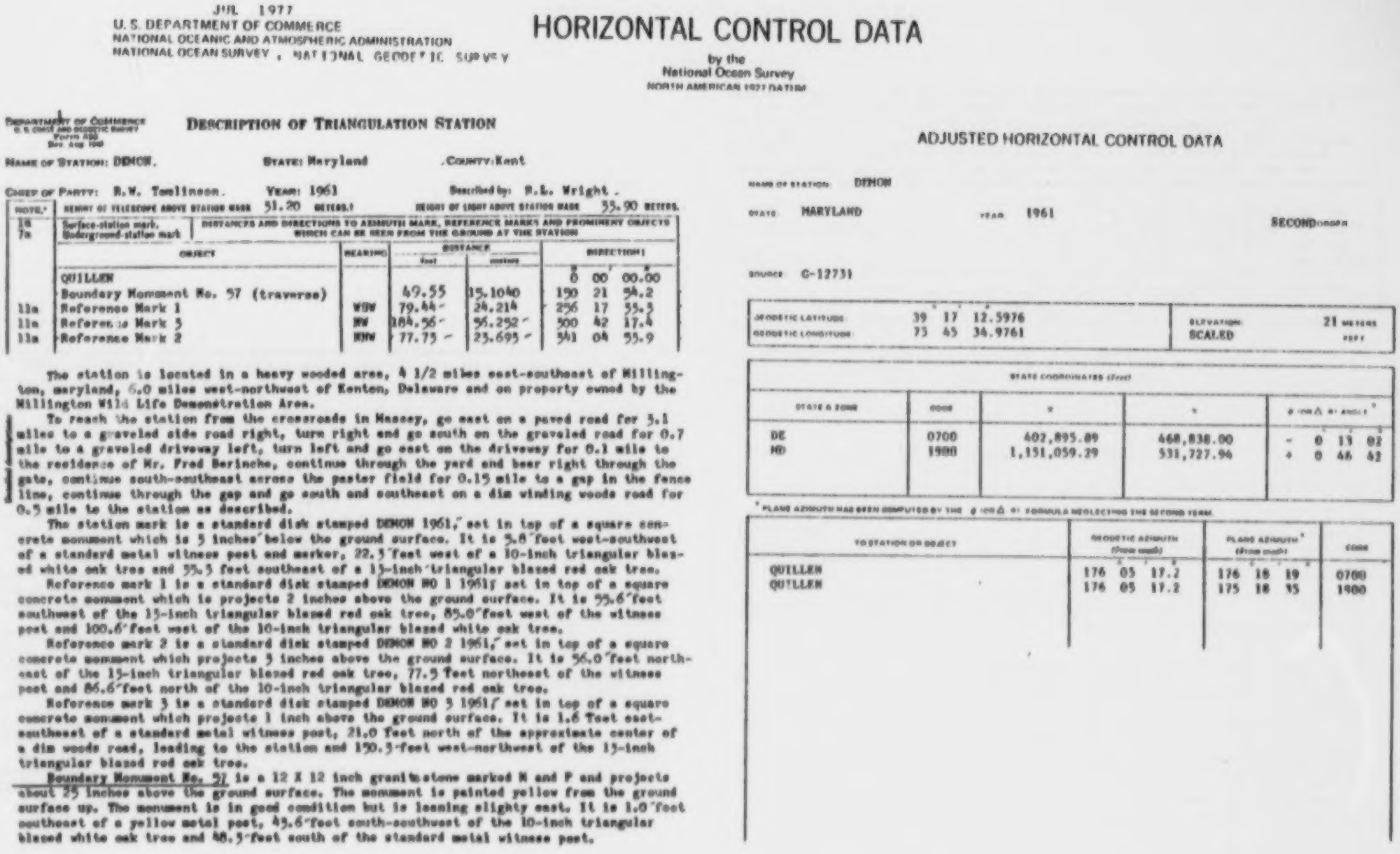
R

NAME OF STATION: DELA
ESTABLISHED BY: L.A.L. YEAR: 1962 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles south of Reliance
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
DODD 1962	N	(1 mile)		0 00′ 00.00
RM 2	S	36.48	11.119	181 19 18
BOUNDARY MONUMENT 10	W	(30.30)	9.234	270 38 32.0
RM 1	N	36.63	11.165	359 59 41

The station and all marks were recovered and found in good condition as previously described. The azimuth mark is not visible from the ground without clearing several large trees. Triangulation Station DODD was used as an azimuth at this date. The distances and direction to both reference marks agreed with the previous observations.

The Maryland-Delaware Boundary Monument number 10 was set below a manhole just west of this station at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Department of Commerce
U. S. Coast and Geodetic Survey
Form 525
Rev. Aug 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DEMON. STATE: Maryland .COUNTY: Kent

CHIEF OF PARTY: R.W. Tomlinson. YEAR: 1961 Described by: R.L. Wright .

HEIGHT OF TELESCOPE ABOVE STATION MARK 51.20 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 55.90 METERS.

NOTE.* 1a Surface-station mark. 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE.*	OBJECT	BEARING	DISTANCE Feet	DISTANCE meters	DIRECTION†
	QUILLEN				0° 00′ 00.00″
	Boundary Monument No. 57 (traverse)		49.55	15.1040	150 21 54.2
11a	Reference Mark 1	WSW	79.44	24.214	256 17 55.5
11a	Reference Mark 3	NW	184.56	56.252	300 42 17.4
11a	Reference Mark 2	NNW	77.75	23.695	341 04 55.9

The station is located in a heavy wooded area, 4 1/2 miles east-southeast of Millington, maryland, 6.0 miles west-northwest of Kenton, Delaware and on property owned by the Millington Wild Life Demonstration Area.

To reach the station from the crossroads in Massey, go east on a paved road for 3.1 miles to a graveled side road right, turn right and go south on the graveled road for 0.7 mile to a graveled driveway left, turn left and go east on the driveway for 0.1 mile to the residence of Mr. Fred Berinche, continue through the yard and bear right through the gate, continue south-southeast across the paster field for 0.15 mile to a gap in the fence line, continue through the gap and go south and southeast on a dim winding woods road for 0.5 mile to the station as described.

The station mark is a standard disk stamped DEMON 1961, set in top of a square concrete monument which is 5 inches below the ground surface. It is 5.8 feet west-southwest of a standard metal witness post and marker, 22.5 feet west of a 10-inch triangular blazed white oak tree and 55.5 feet southeast of a 15-inch triangular blazed red oak tree.

Reference mark 1 is a standard disk stamped DEMON NO 1 1961, set in top of a square concrete monument which is projects 2 inches above the ground surface. It is 55.6 feet southwest of the 15-inch triangular blazed red oak tree, 85.0 feet west of the witness post and 100.6 feet west of the 10-inch triangular blazed white oak tree.

Reference mark 2 is a standard disk stamped DEMON NO 2 1961, set in top of a square concrete monument which projects 5 inches above the ground surface. It is 56.0 feet northeast of the 15-inch triangular blazed red oak tree, 77.5 feet northeast of the witness post and 86.6 feet north of the 10-inch triangular blazed red oak tree.

Reference mark 3 is a standard disk stamped DEMON NO 3 1961, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 1.6 feet east-southeast of a standard metal witness post, 21.0 feet north of the approximate center of a dim woods road, leading to the station and 150.5 feet west-northwest of the 15-inch triangular blazed red oak tree.

Boundary Monument No. 57 is a 12 X 12 inch granite stone marked M and P and projects about 25 inches above the ground surface. The monument is painted yellow from the ground surface up. The monument is in good condition but is leaning slighty east. It is 1.0 foot southeast of a yellow metal post, 43.6 feet south-southwest of the 10-inch triangular blazed white oak tree and 48.5 feet south of the standard metal witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DEMON

STATE: MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731

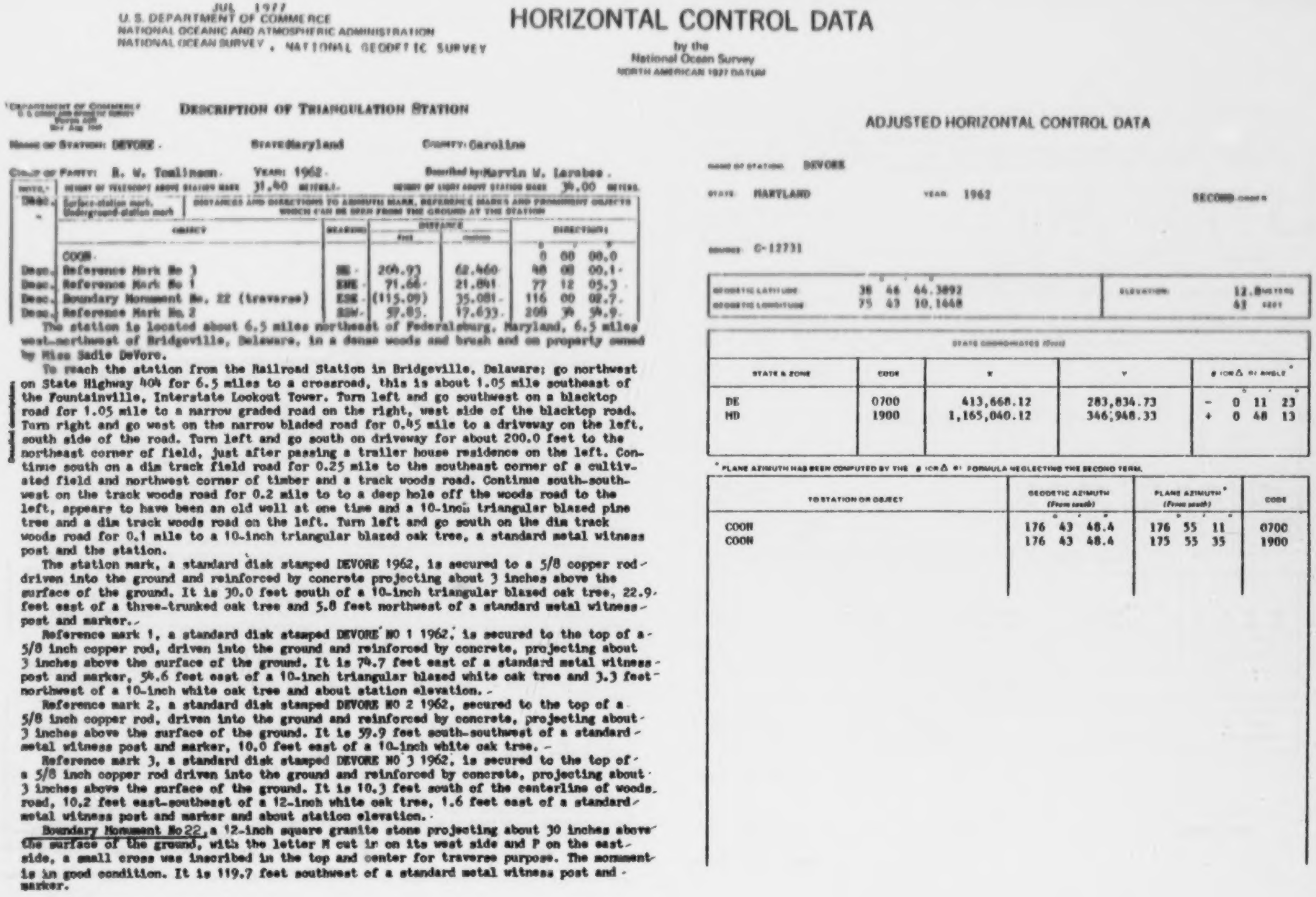
GEODETIC LATITUDE	39° 17′ 12.5976″	ELEVATION:	21 METERS
GEODETIC LONGITUDE	75 45 34.9761	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
DE	0700	402,895.89	460,838.00	− 0° 13′ 02″
MD	1900	1,151,059.29	531,727.94	+ 0 46 42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
QUILLEN	176° 05′ 17.2″	176° 18′ 19″	0700
QUILLEN	176 05 17.2	175 18 35	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: DEVORE . State: Maryland County: Caroline

Chief of Party: R. W. Tomlinson. Year: 1962. Described by: Marvin W. Larabee .

Height of telescope above station mark 31.40 meters. Height of light above station mark 36.00 meters.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

	OBJECT	BEARING	DISTANCE		DIRECTION
			FEET	METERS	° ′ ″
	COON.				0 00 00.0
Desc.	Reference Mark No 3	NE.	204.93	62.460	48 08 00.1
Desc.	Reference Mark No 1	ENE.	71.66	21.841	77 12 05.3
Desc.	Boundary Monument No. 22 (traverse)	ESE.	(115.09)	35.081	116 00 02.7
Desc.	Reference Mark No. 2	SSW.	57.85.	17.633.	208 39 54.9

The station is located about 6.5 miles northeast of Federalsburg, Maryland, 6.5 miles west-northwest of Bridgeville, Delaware, in a dense woods and brush and on property owned by Miss Sadie DeVore.

To reach the station from the Railroad Station in Bridgeville, Delaware; go northwest on State Highway 404 for 6.5 miles to a crossroad, this is about 1.05 mile southeast of the Fountainville, Interstate Lookout Tower. Turn left and go southwest on a blacktop road for 1.05 mile to a narrow graded road on the right, west side of the blacktop road. Turn right and go west on the narrow bladed road for 0.45 mile to a driveway on the left, south side of the road. Turn left and go south on driveway for about 200.0 feet to the northeast corner of field, just after passing a trailer house residence on the left. Continue south on a dim track field road for 0.25 mile to the southeast corner of a cultivated field and northwest corner of timber and a track woods road. Continue south-southwest on the track woods road for 0.2 mile to to a deep hole off the woods road to the left, appears to have been an old well at one time and a 10-inch triangular blazed pine tree and a dim track woods road on the left. Turn left and go south on the dim track woods road for 0.1 mile to a 10-inch triangular blazed oak tree, a standard metal witness post and the station.

The station mark, a standard disk stamped DEVORE 1962, is secured to a 5/8 copper rod driven into the ground and reinforced by concrete projecting about 3 inches above the surface of the ground. It is 30.0 feet south of a 10-inch triangular blazed oak tree, 22.9 feet east of a three-trunked oak tree and 5.8 feet northwest of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped DEVORE NO 1 1962, is secured to the top of a 5/8 inch copper rod, driven into the ground and reinforced by concrete, projecting about 3 inches above the surface of the ground. It is 74.7 feet east of a standard metal witness post and marker, 54.6 feet east of a 10-inch triangular blazed white oak tree and 3.3 feet northwest of a 10-inch white oak tree and about station elevation.

Reference mark 2, a standard disk stamped DEVORE NO 2 1962, secured to the top of a 5/8 inch copper rod, driven into the ground and reinforced by concrete, projecting about 3 inches above the surface of the ground. It is 59.9 feet south-southwest of a standard metal witness post and marker, 10.0 feet east of a 10-inch white oak tree.

Reference mark 3, a standard disk stamped DEVORE NO 3 1962, is secured to the top of a 5/8 inch copper rod driven into the ground and reinforced by concrete, projecting about 3 inches above the surface of the ground. It is 10.3 feet south of the centerline of woods road, 10.2 feet east-southeast of a 12-inch white oak tree, 1.6 feet east of a standard metal witness post and marker and about station elevation.

Boundary Monument No 22, a 12-inch square granite stone projecting about 30 inches above the surface of the ground, with the letter M cut in on its west side and P on the east side, a small cross was inscribed in the top and center for traverse purpose. The monument is in good condition. It is 119.7 feet southwest of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION DEVORE

STATE MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731

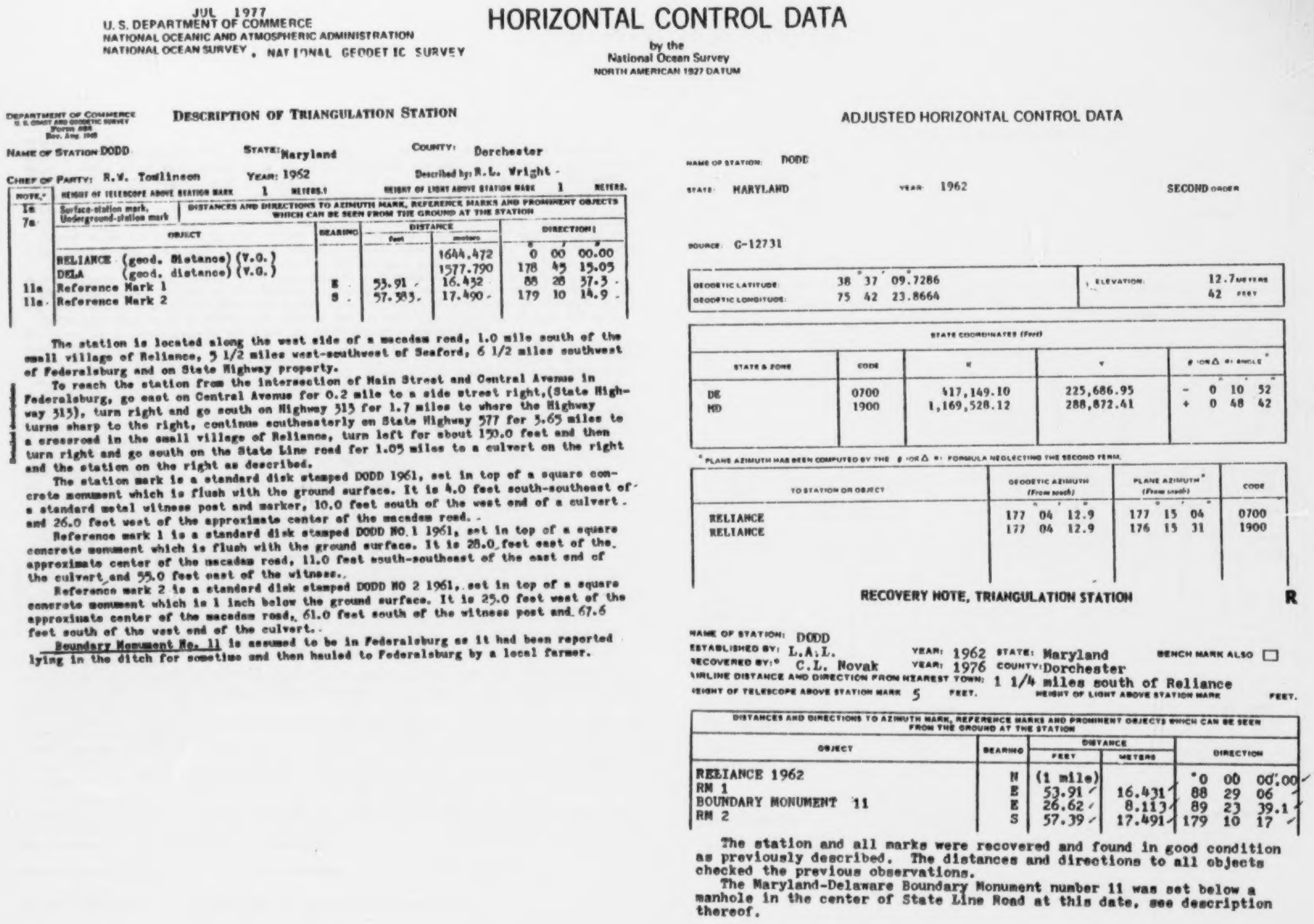
	° ′ ″		
GEODETIC LATITUDE	38 46 46.3892	ELEVATION	12.8 METERS
GEODETIC LONGITUDE	75 43 10.1648		42 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	x	y	θ (or Δα) or ANGLE*
DE	0700	413,668.12	283,834.73	− 0 11 23
MD	1900	1,165,040.12	346,948.33	+ 0 48 13

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
COON	176 43 48.4	176 55 11	0700
COON	176 43 48.4	175 55 35	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION DODD STATE: Maryland COUNTY: Dorchester

CHIEF OF PARTY: R.W. Towlinson YEAR: 1962 Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.

NOTE.*	Surface-station mark, Underground-station mark						
1a 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	RELIANCE (geod. Distance) (V.O.)			1644.472	0	00	00.00
	DELA (geod. distance) (V.O.)			1577.790	178	45	15.05
11a	Reference Mark 1	E	53.91	16.432	88	28	37.3
11a	Reference Mark 2	S	57.383	17.490	179	10	14.9

The station is located along the west side of a macadam road, 1.0 mile south of the small village of Reliance, 5 1/2 miles west-southwest of Seaford, 6 1/2 miles southwest of Federalsburg and on State Highway property.

To reach the station from the intersection of Main Street and Central Avenue in Federalsburg, go east on Central Avenue for 0.2 mile to a side street right,(State Highway 313), turn right and go south on Highway 313 for 1.7 miles to where the Highway turns sharp to the right, continue southeasterly on State Highway 577 for 3.65 miles to a crossroad in the small village of Reliance, turn left for about 150.0 feet and then turn right and go south on the State Line road for 1.05 miles to a culvert on the right and the station on the right as described.

The station mark is a standard disk stamped DODD 1961, set in top of a square concrete monument which is flush with the ground surface. It is 4.0 feet south-southeast of a standard metal witness post and marker, 10.0 feet south of the west end of a culvert and 26.0 feet west of the approximate center of the macadam road.

Reference mark 1 is a standard disk stamped DODD NO.1 1961, set in top of a square concrete monument which is flush with the ground surface. It is 28.0 feet east of the approximate center of the macadam road, 11.0 feet south-southeast of the east end of the culvert and 55.0 feet east of the witness.

Reference mark 2 is a standard disk stamped DODD NO 2 1961, set in top of a square concrete monument which is 1 inch below the ground surface. It is 25.0 feet west of the approximate center of the macadam road, 61.0 feet south of the witness post and 67.6 feet south of the west end of the culvert.

Boundary Monument No. 11 is assumed to be in Federalsburg as it had been reported lying in the ditch for sometime and then hauled to Federalsburg by a local farmer.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DODD

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE:	38	37	09.7286	ELEVATION:	12.7 METERS
GEODETIC LONGITUDE:	75	42	23.8664		42 FEET

STATE COORDINATES (Feet)							
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*			
					°	′	″
DE	0700	417,149.10	225,686.95	-	0	10	52
MD	1900	1,169,528.12	288,872.41	+	0	48	42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
RELIANCE	177	04	12.9	177	15	04	0700
RELIANCE	177	04	12.9	176	15	31	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: DODD
ESTABLISHED BY: L.A.L. YEAR: 1962 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Dorchester
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 1/4 miles south of Reliance
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION		
RELIANCE 1962	N	(1 mile)		°0	00	00.00
RM 1	E	53.91	16.431	88	29	06
BOUNDARY MONUMENT 11	E	26.62	8.113	89	23	39.1
RM 2	S	57.39	17.491	179	10	17

The station and all marks were recovered and found in good condition as previously described. The distances and directions to all objects checked the previous observations.

The Maryland-Delaware Boundary Monument number 11 was set below a manhole in the center of State Line Road at this date, see description thereof.

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: DUNNING STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R. V. Tomlinson YEAR: 1961 Described by: Marvin W. Larabee.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 30.90 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33 METERS.						
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	PEARSONS				00	00	00.0
16a	Azimuth mark	NNE	Approx. 0.4 mile		31	18	33.4
11a	Reference mark 1	NE	76.68	23.371	56	04	28.6
	Boundary Monument 52 (traverse)	SSW	(216.865)	66.100	251	06	45.0
11a	Reference mark 2	WSW	76.30	23.257	291	42	20.0

The station is located about 5.0 miles southeast of Millington, Maryland and 5.0 miles west of Kenton, Delaware. In dense woods and on property owned by Mr. R. Dunning.

To reach the station from the crossroads in Sudlersville; go easterly on State Highway 300 for 3.0 miles to a side road on the left, north, side of the highway. Turn right and go north and northeast on a graveled road for 0.9 miles to a crossroad. Continue northeast on a blacktop road for 2.7 miles to a farm road on the right hand side of the road. Turn right and go east on the graveled farm road for 0.15 mile to a board gate at the northeast corner of farm house. Pass through the board gate, turn right and go south through the barn lot, passing to the west side of barn and implement shed, to a gate at the southwest corner of barn lot. Pass through the gate and go east down a farm lane for 0.15 mile to the west edge of pasture at the end of the lane. Turn south on a dim track road across pasture land and go 0.35 mile to the southeast corner of pasture and edge of timber, a standard metal witness post and the station.

To reach the azimuth mark from the station; go north-northeast across pasture land for 0.4 mile to the southwest corner of timber and the mark as described.

The station mark, a standard disk stamped DUNNING 1961; is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 19.9 feet northwest of a northeast and southwest fenceline, 12.2 feet north-northwest of a standard metal witness post and marker and 12.0 feet east-northeast of the southwest corner of pasture land and edge of timber.

Reference mark 1, a standard disk stamped DUNNING NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 87.3 feet east-northeast of the southwest corner of pasture field, 78.6 feet northeast of a standard metal witness post and marker, 8.0 feet northwest of a northeast and southwest fenceline and is about 16 inches higher than the station.

Reference mark 2, a standard disk stamped DUNNING NO 2 1961, is set in top of a 10-inch square concrete monument projecting about 5 inches above the surface of the ground. It is 87.0 feet west-southwest of a standard metal witness post and marker, 70.0 feet northwest of the southwest corner of pasture, 30.0 feet west-southwest of the west edge of pasture and is about 16 inches higher than the station.

The azimuth mark, a standard disk stamped DUNNING 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 9.6 feet east-southeast of a southeast fence corner, 5.7 feet east-southeast of a standard metal witness post and marker and 3.6 feet south-southeast of a fenceline.

Boundary Monument No. 52, a 12-inch square stone projecting about 32 inches above the surface of the ground with the letter M inscribed on the west side and P on the east side. The monument was found lying prone position. It was plumbed and intersected with a small cross etched in its top and center.

Traversed with a non-standardised tape because monument knocked over.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: DUNNING

STATE: DELAWARE YEAR: 1961 SECOND ORDER

SOURCE: G-12731

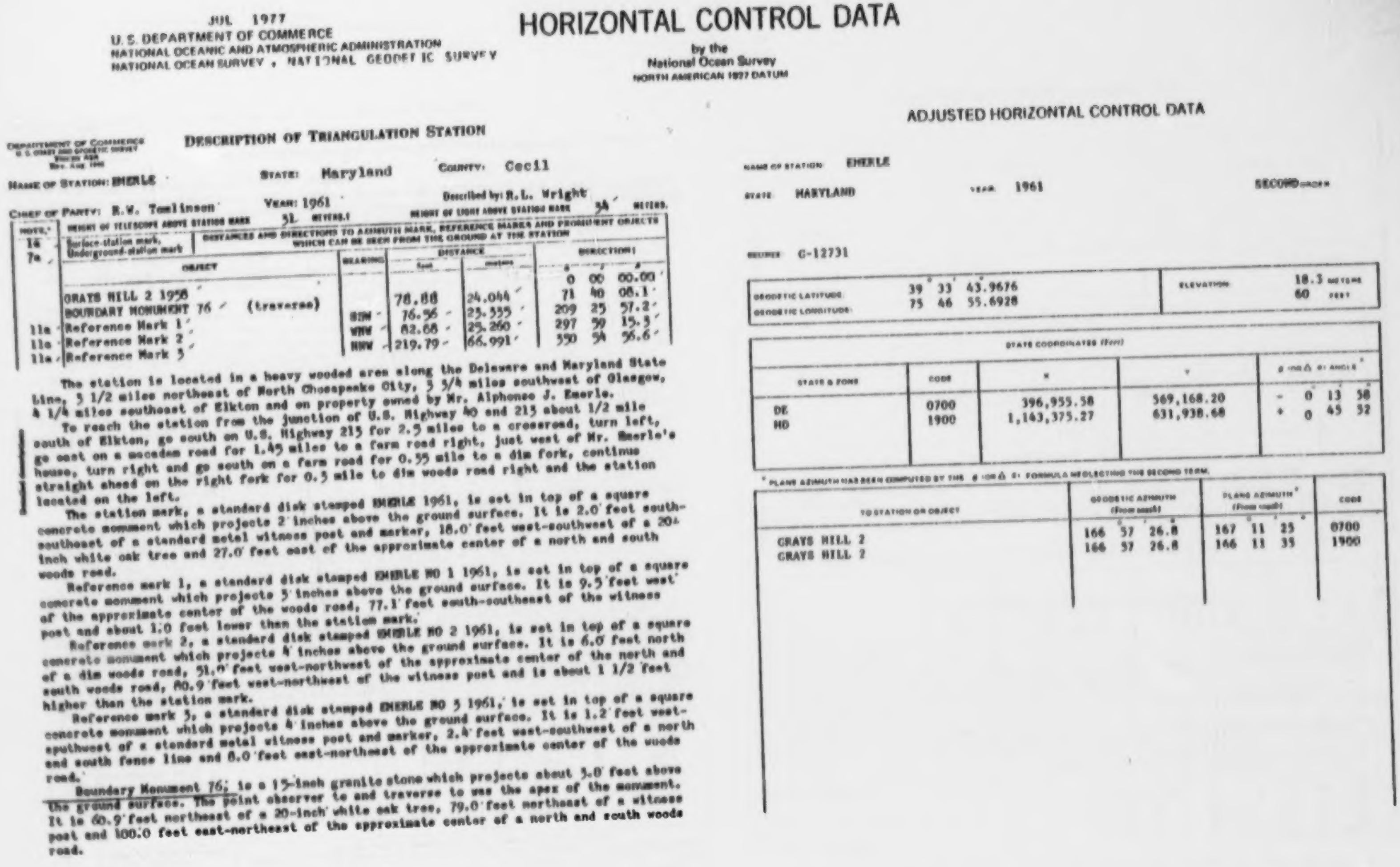
	°	′	″		
GEODETIC LATITUDE:	39	12	51.9129	ELEVATION:	16.3 METERS
GEODETIC LONGITUDE:	75	45	11.1124		53 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*		
DE	0700	404,674.28	442,456.07	- 0	12	46
MD	1900	1,153,295.68	505,381.80	+ 0	46	57

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	205 39 47.4	205 52 33	0700
AZIMUTH MARK	205 39 47.4	204 52 50	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA
by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: EMERLE
STATE: Maryland
COUNTY: Cecil
CHIEF OF PARTY: R.W. Tomlinson
YEAR: 1961
DESCRIBED BY: R.L. Wright
HEIGHT OF TELESCOPE ABOVE STATION MARK 31 METERS.
HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.

NOTE	Surface-station mark 1a, Underground-station mark 7a — OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	GRAYS HILL 2 1958				0 00 00.00
	BOUNDARY MONUMENT 76 (traverse)		78.88	24.044	71 40 08.1
11a	Reference Mark 1	SSW	76.56	23.335	209 25 57.2
11a	Reference Mark 2	WNW	82.88	25.260	297 59 15.3
11a	Reference Mark 3	NNW	219.79	66.991	350 54 56.6

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

The station is located in a heavy wooded area along the Delaware and Maryland State
Line, 3 1/2 miles northeast of North Chesapeake City, 3 3/4 miles southwest of Glasgow,
4 1/4 miles southeast of Elkton and on property owned by Mr. Alphonse J. Emerle.

To reach the station from the junction of U.S. Highway 40 and 213 about 1/2 mile
south of Elkton, go south on U.S. Highway 213 for 2.5 miles to a crossroad, turn left,
go east on a macadam road for 1.45 miles to a farm road right, just west of Mr. Emerle's
house, turn right and go south on a farm road for 0.55 mile to a dim fork, continue
straight ahead on the right fork for 0.3 mile to dim woods road right and the station
located on the left.

The station mark, a standard disk stamped EMERLE 1961, is set in top of a square
concrete monument which projects 2 inches above the ground surface. It is 2.0 feet south-
southeast of a standard metal witness post and marker, 18.0 feet west-southwest of a 20-
inch white oak tree and 27.0 feet east of the approximate center of a north and south
woods road.

Reference mark 1, a standard disk stamped EMERLE NO 1 1961, is set in top of a square
concrete monument which projects 3 inches above the ground surface. It is 9.5 feet west
of the approximate center of the woods road, 77.1 feet south-southeast of the witness
post and about 1.0 feet lower than the station mark.

Reference mark 2, a standard disk stamped EMERLE NO 2 1961, is set in top of a square
concrete monument which projects 4 inches above the ground surface. It is 6.0 feet north
of a dim woods road, 51.0 feet west-northwest of the approximate center of the north and
south woods road, 80.9 feet west-northwest of the witness post and is about 1 1/2 feet
higher than the station mark.

Reference mark 3, a standard disk stamped EMERLE NO 3 1961, is set in top of a square
concrete monument which projects 4 inches above the ground surface. It is 1.2 feet west-
southwest of a standard metal witness post and marker, 2.4 feet west-southwest of a north
and south fence line and 8.0 feet east-northeast of the approximate center of the woods
road.

Boundary Monument 76, is a 15-inch granite stone which projects about 3.0 feet above
the ground surface. The point observer to and traverse to was the apex of the monument.
It is 60.9 feet northeast of a 20-inch white oak tree, 79.0 feet northeast of a witness
post and 100.0 feet east-northeast of the approximate center of a north and south woods
road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: EMERLE
STATE: MARYLAND
YEAR: 1961
SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE	39° 33′ 43.9676″	ELEVATION	18.3 METERS
GEODETIC LONGITUDE	75 46 55.6928		60 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	396,955.58	569,168.20	− 0° 13′ 58″
MD	1900	1,143,375.27	631,938.68	+ 0 45 52

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
GRAYS HILL 2	166° 57′ 26.8″	167° 11′ 25″	0700
GRAYS HILL 2	166 57 26.8	166 11 35	1900

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FORD
STATE: Maryland
COUNTY: Queen Annes
CHIEF OF PARTY: R.W. Tomlinson
YEAR: 1961
Described by: R.L. Wright
HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS.
HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.

NOTE.* 1a - Surface-station mark, 7a - Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
-	WALMSLEY				0 00 00.00
11a	Reference Mark 1	NNE	43.02	13.112	211 39 08.9
16a	Azimuth Mark	E	Approx. 0.4 mile		271 21 10.50
11a	Reference Mark 2	SE	41.00	12.497	327 27 55.6
Desc	Boundary Monument 51 (traverse)	SE	84.59	25.783	345 56 52.3

The station is located in a pasturefield, 3.0 miles northwest of Hartly, Delaware, 5.0 miles west-southwest of Kenton, Delaware, 6.0 miles east of Sudlersville and on property owned by Mrs. Earnest Ford.

To reach the station from the crossroads in Sudlersville, Maryland, go easterly on State Highway 300 for 6.0 miles to the Delaware-Maryland State Line and the station is located on the left about 200 feet north in the pasturefield.

The station mark is a standard disk stamped FORD 1961, set in top of a square concrete monument which is 15 inches below the ground surface. It is 22.9 feet west of a standard metal witness post and marker, 23.5 feet west of a north and south fence line, 88.0 feet northwest of a large lone wild cherry tree and 179.0 feet north of a field entrance.

Reference mark 1 is a standard disk stamped FORD NO 1 1961, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 1.0 foot west of the north and south fence line, 33.5 feet north of the witness post and 121.5 feet north of the field entrance.

Reference mark 2 is a standard disk stamped FORD NO 2 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.7 feet west of the north and south fence line, 37.8 feet south of the witness post and 50.0 feet north of the large lone wild cherry tree.

Boundary Monument No. 51 is a 12 X 12 inch limestone monument which projects 20 inches above the ground surface and has the letters P and M on the east and west sides of the monument. The monument is firmly set and in excellent condition except the corners are slightly chipped. It is located 1.5 feet west of a north and south fence line, 3.0 feet north of a large lone wild cherry tree and 97.0 feet north of a field entrance.

To reach the azimuth mark from the station, go east on State Highway 300 for 0.4 mile to the junction of State Highway 44 and the azimuth mark is located on the right as described.

The azimuth mark is a standard disk stamped FORD 1961, set in top of square concrete monument which is flush with the ground surface. It is 9.4 feet northeast of a standard metal witness post and marker, 14.3 feet east of a telephone pole number JB326, 32.4 feet south of the approximate center of State Highway 300 and 69.0 feet southwest of the crossroads intersection of State Highway 300 and State Highway 44.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FORD
STATE: MARYLAND
YEAR: 1961
SECOND ORDER
SOURCE: G-12731

	° ′ ″		
GEODETIC LATITUDE:	39 11 59.7215	ELEVATION:	18.4 METERS
GEODETIC LONGITUDE:	75 45 09.8348		60 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	404,755.26	437,175.25	- 0 12 45
MD	1900	1,153,468.37	500,103.39	+ 0 46 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
FORD AZ MK	268 12 31.4	268 25 16	0700
FORD AZ MK	268 12 31.4	267 25 33	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FOSTER   STATE: Maryland   COUNTY: Cecil

CHIEF OF PARTY: R.V. Tomlinson   YEAR: 1961   Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
1a 7a	Surface-station mark, Underground-station mark — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	DREW (CROW 1892) 1935				0	00	00.00
	BOUNDARY MONUMENT 84 (traverse)	NE	28.48	8.679	47	16	58.9
11a	Reference Mark 1	E	102.65	31.287	110	31	00.1
16w	Azimuth Mark	S	Approximate 0.15 mile		188	09	18.7
11a	Reference Mark 2	NW	162.71	49.594	353	33	51.1

The station is located in the southwest section of a barn lot, 2.0 miles west-southwest of Newark, Delaware, 2 1/2 miles northeast of Elk Mills, Maryland, 3.0 miles south of the Pennsylvania State Line and on property owned by Mr. Clarence S. Foster.

To reach the station from the post office in Newark, Delaware, go west on Main Street for 0.4 mile to a triple fork, keep the left fork and go south-southwest on State Highway 2 and Elkton Road for 0.4 mile to a paved side road, right, turn right and go west on the paved road for 1.4 miles to a side road, right and the azimuth mark located on the left, south side of the road. Turn right and go north on the graveled road for 0.2 mile to a driveway right, leading to the resident of Mr. Clarence S. Foster, turn right and go west on the driveway for about 0.05 mile to a gate on the right, turn right through the gate and go south-southwest across the barn lot for 0.07 mile to the southwest corner of the barn lot and the station as described.

The station mark, a standard disk stamped FOSTER 1961, is set in top of a square concrete monument which is flush with the ground surface. It is 14.6 feet north of an east and west fence line, 42.0 feet east-northeast of a southwest fence corner and 107.0 feet west-northwest of a southeast fence corner.

Reference mark 1, a standard disk stamped FOSTER NO 1 1961, is set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.0 foot north of the east and west fence line, 4.6 feet west-northwest of the southeast fence corner, 142.0 feet east of the southwest fence corner and is about 4.0 feet lower than the station mark.

Reference mark 2, a standard disk stamped FOSTER NO 2 1961, is set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.6 feet east of a north and south fence line, 167.6 feet north of the southwest fence corner and is about 2 1/2 feet higher than the station emrk.

Boundary Monument 84, is a 15-inch granite stone which projects about 2 1/2 feet above the ground surface. The position and traverse connection was taken to the apex of the monument. It is 42.3 feet north of the east and west fence line and 59.0 feet northeast of the southwest fence corner.

Azimuth mark, a standard disk stamped FOSTER 1961, is set in top of a square concrete monument which projects 3 inches above the ground surface. It is 1.7 feet east of a powerline pole number 1566, 35.0 feet south of the approximate center of the graveled road, 58.0 feet southeast of a T-graveled road intersection and 60.3 feet south-southeast of the southwest corner of a fence.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FOSTER

STATE: MARYLAND   YEAR: 1961   SECOND ORDER

SOURCE: G-12731

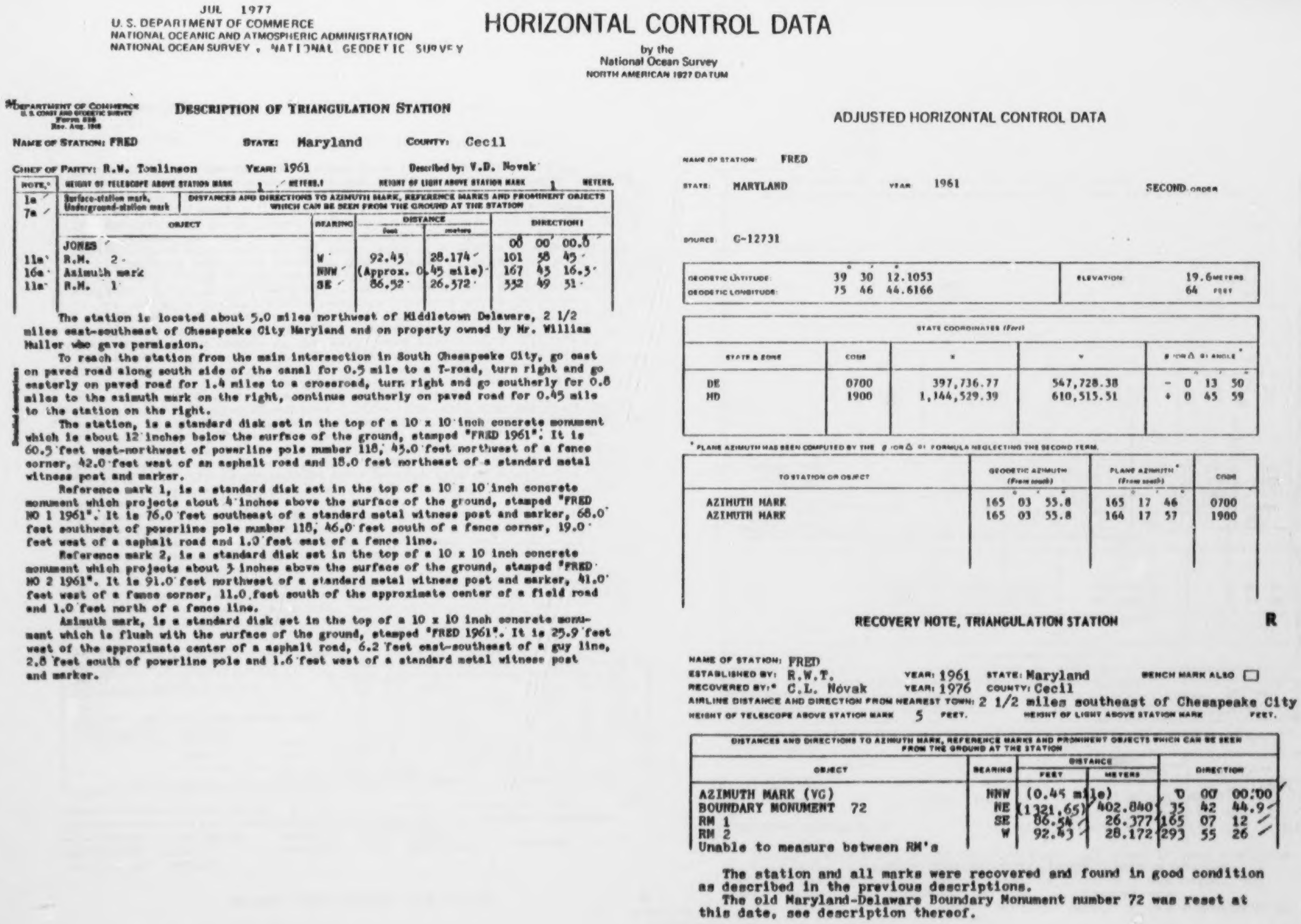
	°	′	″		
GEODETIC LATITUDE:	39	40	41.4739	ELEVATION:	51.2 METERS
GEODETIC LONGITUDE:	75	47	20.3885		168 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	395,196.48	611,420.25	- 0° 14′ 16″
MD	1900	1,140,880.84	674,134.84	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	355° 01′ 22.4″	355° 15′ 38″	0700
AZIMUTH MARK	355 01 22.4	354 15 46	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: FRED STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: V.D. Novak

NOTE.	HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.				
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	JONES				00 00 00.0
11a	R.M. 2	W	92.45	28.174	101 58 45
16a	Azimuth mark	NNW	(Approx. 0.45 mile)		167 45 16.5
11a	R.M. 1	SE	86.52	26.372	332 49 31

The station is located about 5.0 miles northwest of Middletown Delaware, 2 1/2 miles east-southeast of Chesapeake City Maryland and on property owned by Mr. William Muller who gave permission.

To reach the station from the main intersection in South Chesapeake City, go east on paved road along south side of the canal for 0.5 mile to a T-road, turn right and go easterly on paved road for 1.4 miles to a crossroad, turn right and go southerly for 0.8 miles to the azimuth mark on the right, continue southerly on paved road for 0.45 mile to the station on the right.

The station, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 12 inches below the surface of the ground, stamped "FRED 1961". It is 60.5 feet west-northwest of powerline pole number 118, 45.0 feet northwest of a fence corner, 42.0 feet west of an asphalt road and 18.0 feet northeast of a standard metal witness post and marker.

Reference mark 1, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects atout 4 inches above the surface of the ground, stamped "FRED NO 1 1961". It is 76.0 feet southeast of a standard metal witness post and marker, 68.0 feet southwest of powerline pole number 118, 46.0 feet south of a fence corner, 19.0 feet west of a asphalt road and 1.0 feet east of a fence line.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped "FRED NO 2 1961". It is 91.0 feet northwest of a standard metal witness post and marker, 41.0 feet west of a fence corner, 11.0 feet south of the approximate center of a field road and 1.0 feet north of a fence line.

Azimuth mark, is a standard disk set in the top of a 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "FRED 1961". It is 25.9 feet west of the approximate center of a asphalt road, 6.2 feet east-southeast of a guy line, 2.8 feet south of powerline pole and 1.6 feet west of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: FRED

STATE: MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 30′ 12.1053″	ELEVATION:	19.6 METERS
GEODETIC LONGITUDE:	75 46 44.6166		64 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	397,736.77	547,728.38	− 0° 13′ 50″
MD	1900	1,144,529.39	610,515.51	+ 0 45 59

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	165° 03′ 55.8″	165° 17′ 46″	0700
AZIMUTH MARK	165 03 55.8	164 17 57	1900

RECOVERY NOTE, TRIANGULATION STATION

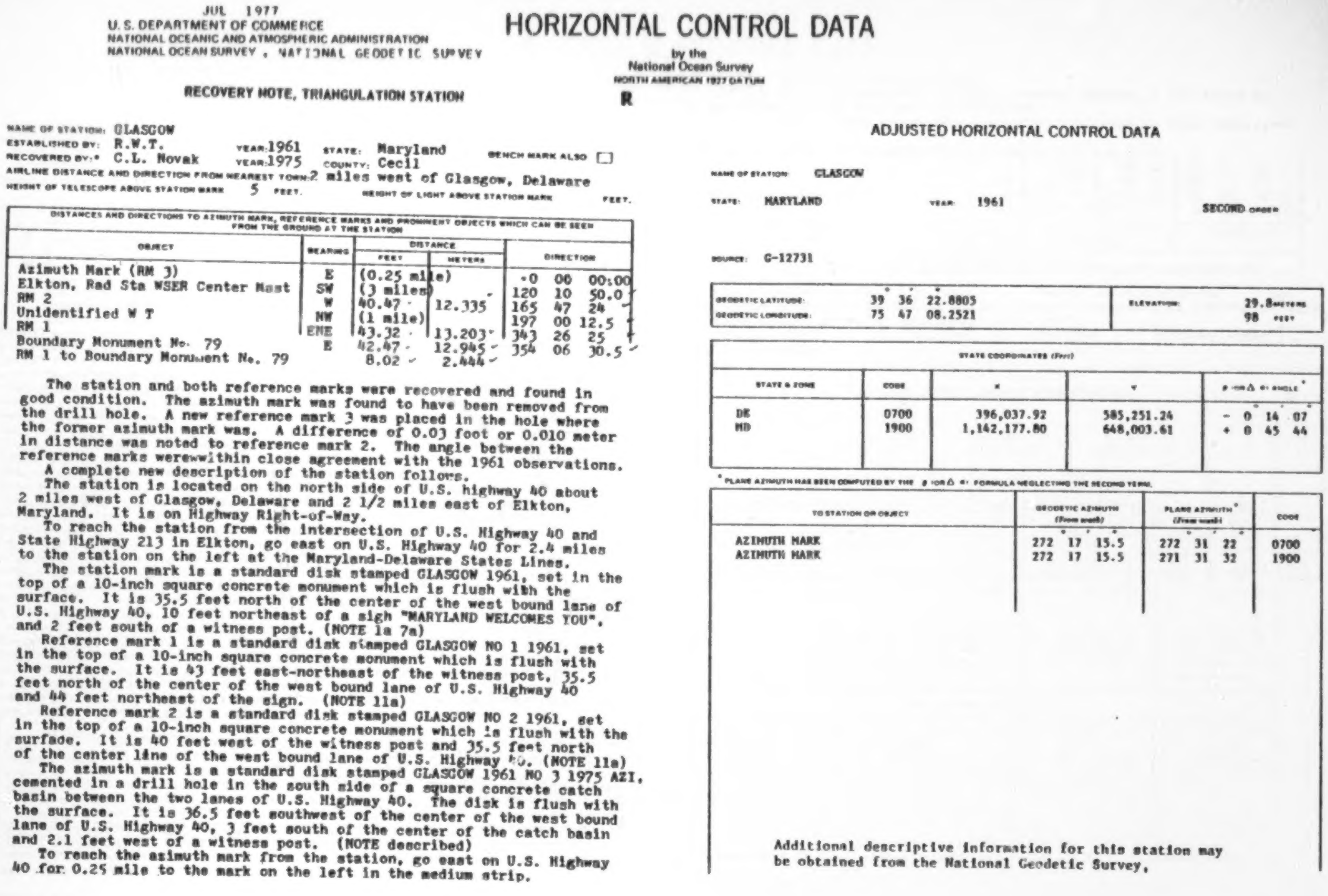
R

NAME OF STATION: FRED
ESTABLISHED BY: R.W.T. YEAR: 1961 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Cecil
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 1/2 miles southeast of Chesapeake City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK (VG)	NNW	(0.45 mile)		0 00 00.00
BOUNDARY MONUMENT 72	NE	(1321.65)	402.840	35 42 44.9
RM 1	SE	86.54	26.377	165 07 12
RM 2	W	92.43	28.172	293 55 26
Unable to measure between RM's				

The station and all marks were recovered and found in good condition as described in the previous descriptions.

The old Maryland-Delaware Boundary Monument number 72 was reset at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: GLASGOW
ESTABLISHED BY: R.W.T. YEAR: 1961 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1975 COUNTY: Cecil
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles west of Glasgow, Delaware
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
Azimuth Mark (RM 3)	E	(0.25 mile)		0 00 00:00
Elkton, Rad Sta WSER Center Mast	SW	(3 miles)		120 10 50.0
RM 2	W	40.47	12.335	165 47 24
Unidentified W T	NW	(1 mile)		197 00 12.5
RM 1	ENE	43.32	13.203	343 26 25
Boundary Monument No. 79	E	42.47	12.945	354 06 30.5
RM 1 to Boundary Monument No. 79		8.02	2.444	

The station and both reference marks were recovered and found in good condition. The azimuth mark was found to have been removed from the drill hole. A new reference mark 3 was placed in the hole where the former azimuth mark was. A difference of 0.03 foot or 0.010 meter in distance was noted to reference mark 2. The angle between the reference marks werewwithin close agreement with the 1961 observations.

A complete new description of the station follows.

The station is located on the north side of U.S. highway 40 about 2 miles west of Glasgow, Delaware and 2 1/2 miles east of Elkton, Maryland. It is on Highway Right-of-Way.

To reach the station from the intersection of U.S. Highway 40 and State Highway 213 in Elkton, go east on U.S. Highway 40 for 2.4 miles to the station on the left at the Maryland-Delaware States Lines.

The station mark is a standard disk stamped GLASGOW 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 35.5 feet north of the center of the west bound lane of U.S. Highway 40, 10 feet northeast of a sigh "MARYLAND WELCOMES YOU", and 2 feet south of a witness post. (NOTE 1a 7a)

Reference mark 1 is a standard disk stamped GLASGOW NO 1 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 43 feet east-northeast of the witness post, 35.5 feet north of the center of the west bound lane of U.S. Highway 40 and 44 feet northeast of the sign. (NOTE 11a)

Reference mark 2 is a standard disk stamped GLASGOW NO 2 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 40 feet west of the witness post and 35.5 feet north of the center line of the west bound lane of U.S. Highway 40. (NOTE 11a)

The azimuth mark is a standard disk stamped GLASGOW 1961 NO 3 1975 AZI, cemented in a drill hole in the south side of a square concrete catch basin between the two lanes of U.S. Highway 40. The disk is flush with the surface. It is 36.5 feet southwest of the center of the west bound lane of U.S. Highway 40, 3 feet south of the center of the catch basin and 2.1 feet west of a witness post. (NOTE described)

To reach the azimuth mark from the station, go east on U.S. Highway 40 for 0.25 mile to the mark on the left in the medium strip.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GLASGOW
STATE: MARYLAND YEAR: 1961 SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE:	39° 36′ 22.8805″	ELEVATION:	29.8 METERS
GEODETIC LONGITUDE:	75 47 08.2521		98 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	396,037.92	585,251.24	− 0° 14′ 07″
MD	1900	1,142,177.80	648,003.61	+ 0 45 44

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	272° 17′ 15.5″	272° 31′ 22″	0700
AZIMUTH MARK	272 17 15.5	271 31 32	1900

Additional descriptive information for this station may be obtained from the National Geodetic Survey,

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: GOLTS STATE: Delaware COUNTY: New Castle

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: V.D. Novak

NOTE.	HEIGHT OF TELESCOPE ABOVE STATION MARK 31 METERS.		HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	WHARTON 1934				00 00 00.0
11a	R.M. 2	WSW	72.90	22.221	76 40 41.2
16a	Azimuth mark	ENE	(Approx.	0.15 mile)	254 59 57.7
11a	R.M. 1	E	81.03	24.697	283 41 05.4

The station is located about 5.0 miles southwest of Townsend Delaware, 1.0 mile northeast of the small village of Golts and on property owned by Mr. Erwin Brown who gave permission.

To reach the station from the General Store in the small village of Golts, go north for 0.1 mile to the main road, turn right and go northerly on asphalt road for 0.75 mile to a side road right, turn right on graveled road and go 0.45 mile to the state line, continue on graveled road for 0.2 mile to a private road right, turn right and go 0.15 mile to a railroad crossing, (cross over railroad track and go 0.1 mile to the edge of the timber and the azimuth mark.), turn right and follow along the edge of the field for 0.2 mile to the station.

The station, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 2 inches above the surface of the ground, stamped "GOLTS 1961". It is 59.0 feet east of a 24-inch maple tree, 47.5 feet south-southeast of the south rail of a railroad track and 5.7 feet northeast of a standard metal witness post and marker.

Reference mark 1, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 2 inches above the surface of the ground, stamped " GOLTS NO 1 1961". It is 116.5 feet southeast of the south rail of the railroad track and 82.5 feet west-northwest of a standard metal witness post and marker.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 2 inches above the surface of the ground, stamped "GOLTS NO 2 1961". It is 69.8 feet east of a standard metal witness post and marker, 17.5 feet northwest of a 24-inch maple tree and 15.8 feet south of the south rail of a railroad track.

Azimuth mark, is a standard disk set in the top of a 10 x 10 inch concrete monument which is flush with the surface of the ground, stamped "GOLTS 1961". It is 18.0 feet east of the east end of open field, 10.5 feet southeast of a 30-inch oak tree, 11.0 feet west-northwest of a 30-inch oak tree and 8.0 feet east-northeast of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: GOLTS
STATE: DELAWARE YEAR: 1961 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39 20 41.0022	ELEVATION:	22.1 METERS
GEODETIC LONGITUDE:	75 45 49.7174		73 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	401,817.75	489,928.08	- 0 13 12
MD	1900	1,149,614.82	552,795.54	+ 0 46 33

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	252 57 34.8	253 10 47	0700
AZIMUTH MARK	252 57 34.8	252 11 02	1900

RECOVERY NOTE, TRIANGULATION STATION

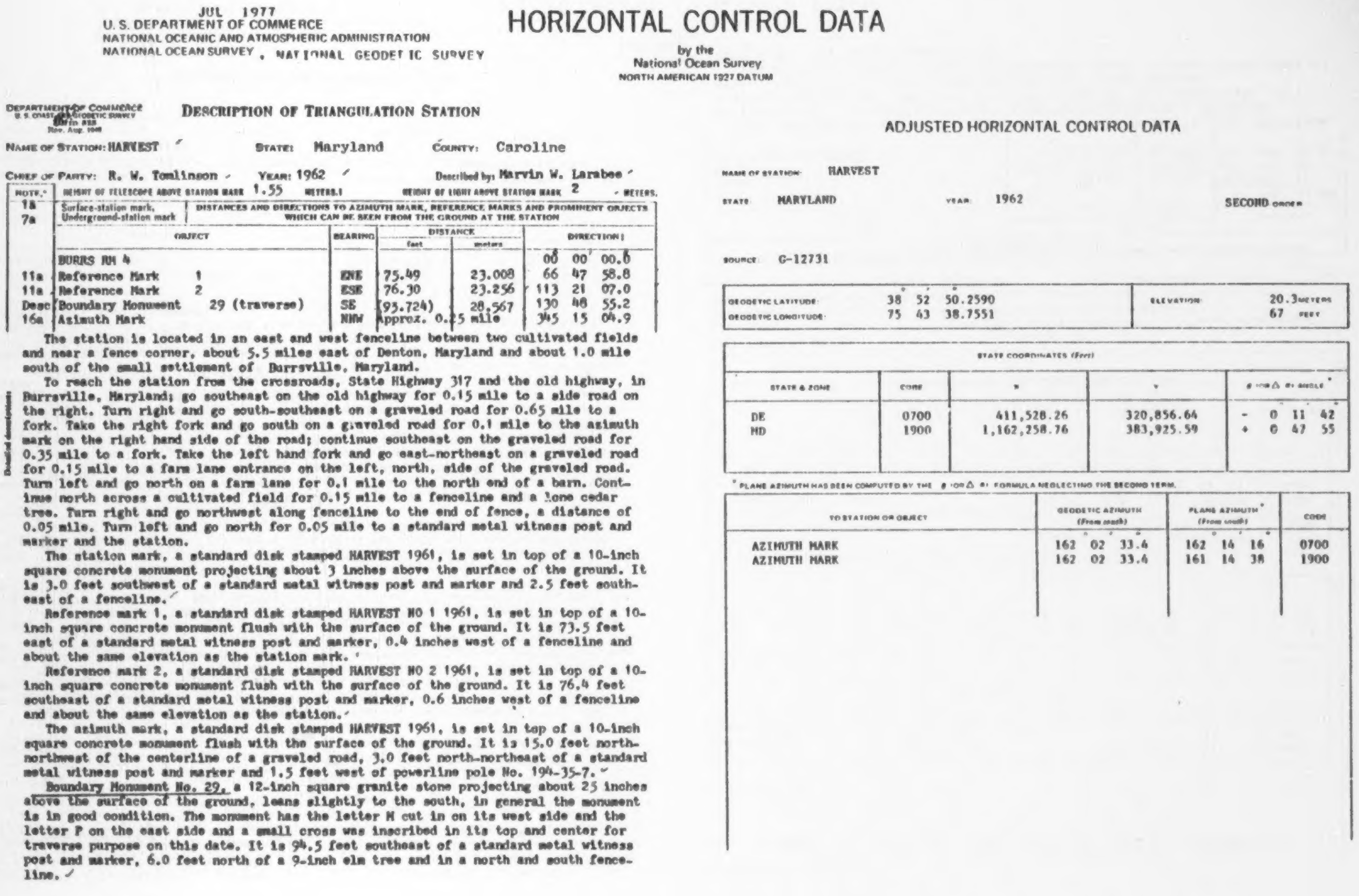
R

NAME OF STATION: GOLTS
ESTABLISHED BY: L.A.L. YEAR: 1961 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile northeast of Golts.
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	ENE			0 00 00.00
RM 1	E	81.04	24.702	28 41 17
RM 2	WSW	72.90	22.220	181 40 30
BOUNDARY MONUMENT 61	W	(136.80)	41.698	193 27 31.0

The station and all marks were recovered and found in good condition as previously described. The previous descriptions are adequate. A shorter distance of 0.01 foot or 0.005 meter to RM 1 was noted. All other distances and directions checked 1961 observations.

The Maryland-Delaware Boundary Monument number 61 was established at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HARVEST STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

NOTE						
	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.55 METERS			HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE		DIRECTION	
			feet	meters		
	BURRS RM 4				00 00 00.0	
11a	Reference Mark 1	ENE	75.49	23.008	66 47 58.8	
11a	Reference Mark 2	ESE	76.30	23.256	113 21 07.0	
Desc	Boundary Monument 29 (traverse)	SE	(93.724)	28.567	130 48 55.2	
16a	Azimuth Mark	NNW	Approx. 0.25 mile		345 15 04.9	

The station is located in an east and west fenceline between two cultivated fields and near a fence corner, about 5.5 miles east of Denton, Maryland and about 1.0 mile south of the small settlement of Burrsville, Maryland.

To reach the station from the crossroads, State Highway 317 and the old highway, in Burrsville, Maryland; go southeast on the old highway for 0.15 mile to a side road on the right. Turn right and go south-southeast on a graveled road for 0.65 mile to a fork. Take the right fork and go south on a graveled road for 0.1 mile to the azimuth mark on the right hand side of the road; continue southeast on the graveled road for 0.35 mile to a fork. Take the left hand fork and go east-northeast on a graveled road for 0.15 mile to a farm lane entrance on the left, north, side of the graveled road. Turn left and go north on a farm lane for 0.1 mile to the north end of a barn. Continue north across a cultivated field for 0.15 mile to a fenceline and a lone cedar tree. Turn right and go northwest along fenceline to the end of fence, a distance of 0.05 mile. Turn left and go north for 0.05 mile to a standard metal witness post and marker and the station.

The station mark, a standard disk stamped HARVEST 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 3.0 feet southwest of a standard metal witness post and marker and 2.5 feet southeast of a fenceline.

Reference mark 1, a standard disk stamped HARVEST NO 1 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 73.5 feet east of a standard metal witness post and marker, 0.4 inches west of a fenceline and about the same elevation as the station mark.

Reference mark 2, a standard disk stamped HARVEST NO 2 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 76.4 feet southeast of a standard metal witness post and marker, 0.6 inches west of a fenceline and about the same elevation as the station.

The azimuth mark, a standard disk stamped HARVEST 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 15.0 feet north-northwest of the centerline of a graveled road, 3.0 feet north-northeast of a standard metal witness post and marker and 1.5 feet west of powerline pole No. 194-35-7.

Boundary Monument No. 29, a 12-inch square granite stone projecting about 25 inches above the surface of the ground, leans slightly to the south, in general the monument is in good condition. The monument has the letter M cut in on its west side and the letter P on the east side and a small cross was inscribed in its top and center for traverse purpose on this date. It is 94.5 feet southeast of a standard metal witness post and marker, 6.0 feet north of a 9-inch elm tree and in a north and south fenceline.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: HARVEST

STATE: MARYLAND YEAR: 1962 SECOND ORDER

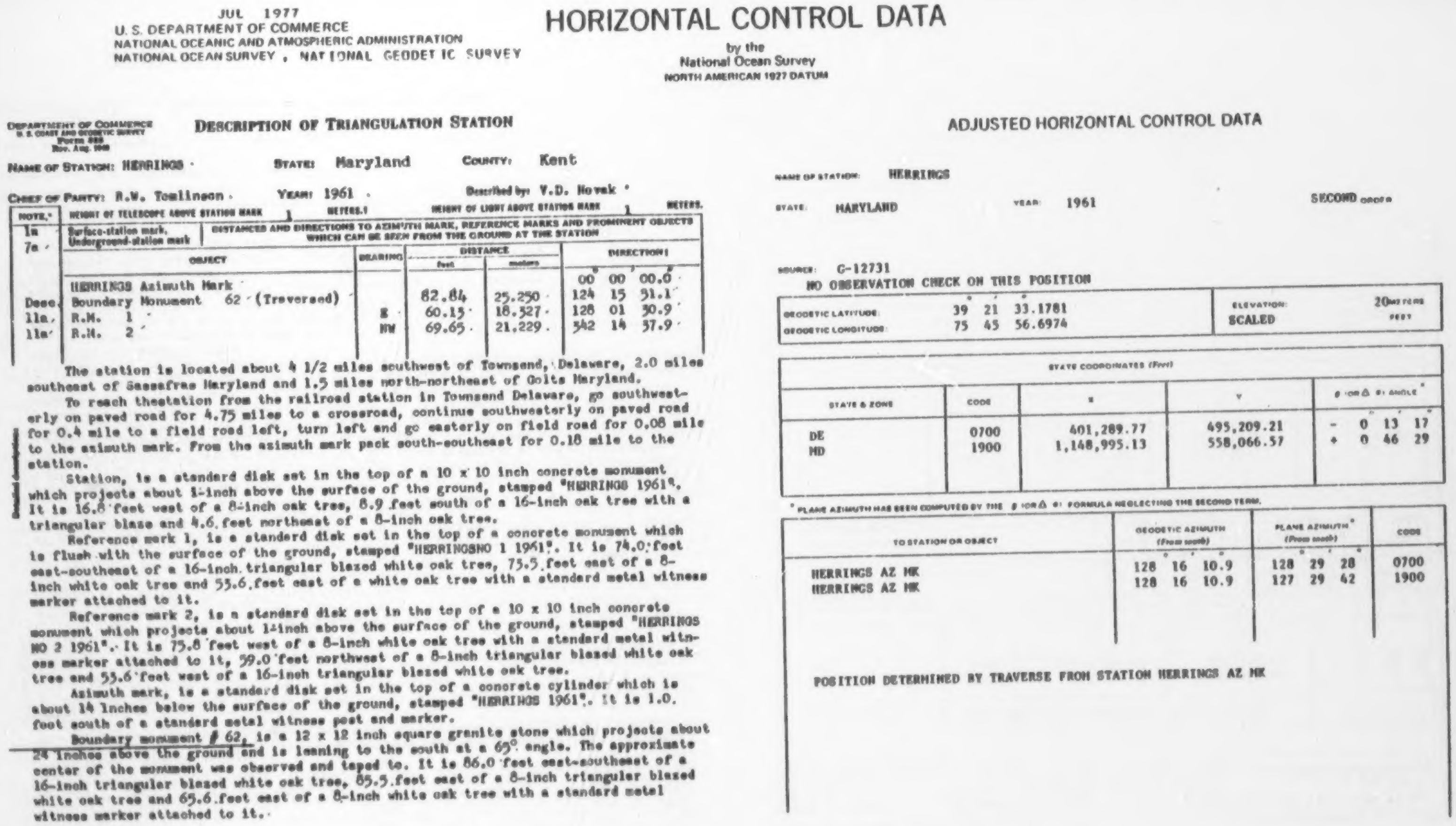
SOURCE: G-12731

GEODETIC LATITUDE:	38 52 50.2590	ELEVATION:	20.3 METERS
GEODETIC LONGITUDE:	75 43 38.7551		67 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δα) ANGLE*
DE	0700	411,528.26	320,856.64	- 0 11 42
MD	1900	1,162,258.76	383,925.59	+ 0 47 55

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	162 02 33.4	162 14 16	0700
AZIMUTH MARK	162 02 33.4	161 14 38	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HERRINGS STATE: Maryland COUNTY: Kent

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: V.D. Novak

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS.†				HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION† ° ′ ″
	HERRINGS Azimuth Mark				00 00 00.0
Desc.	Boundary Monument 62 (Traversed)		82.84	25.250	124 15 31.1
11a	R.M. 1	E	60.13	18.327	128 01 30.9
11a	R.M. 2	NW	69.65	21.229	342 14 37.9

The station is located about 4 1/2 miles southwest of Townsend, Delaware, 2.0 miles southeast of Sassafras Maryland and 1.5 miles north-northeast of Golts Maryland.

To reach thestation from the railroad station in Townsend Delaware, go southwesterly on paved road for 4.75 miles to a crossroad, continue southwesterly on paved road for 0.4 mile to a field road left, turn left and go easterly on field road for 0.08 mile to the azimuth mark. From the azimuth mark pack south-southeast for 0.18 mile to the station.

Station, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 1-inch above the surface of the ground, stamped "HERRINGS 1961". It is 16.8 feet west of a 8-inch oak tree, 8.9 feet south of a 16-inch oak tree with a triangular blaze and 4.6 feet northeast of a 8-inch oak tree.

Reference mark 1, is a standard disk set in the top of a concrete monument which is flush with the surface of the ground, stamped "HERRINGSNO 1 1961". It is 74.0 feet east-southeast of a 16-inch triangular blazed white oak tree, 73.5 feet east of a 8-inch white oak tree and 53.6 feet east of a white oak tree with a standard metal witness marker attached to it.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 1-inch above the surface of the ground, stamped "HERRINGS NO 2 1961". It is 75.8 feet west of a 8-inch white oak tree with a standard metal witness marker attached to it, 59.0 feet northwest of a 8-inch triangular blazed white oak tree and 53.6 feet west of a 16-inch triangular blazed white oak tree.

Azimuth mark, is a standard disk set in the top of a concrete cylinder which is about 14 Inches below the surface of the ground, stamped "HERRINGS 1961". It is 1.0 foot south of a standard metal witness post and marker.

Boundary monument # 62, is a 12 x 12 inch square granite stone which projects about 24 Inches above the ground and is leaning to the south at a 65° angle. The approximate center of the monument was observed and taped to. It is 86.0 feet east-southeast of a 16-inch triangular blazed white oak tree, 85.5 feet east of a 8-inch triangular blazed white oak tree and 65.6 feet east of a 8-inch white oak tree with a standard metal witness marker attached to it.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: HERRINGS

STATE: MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

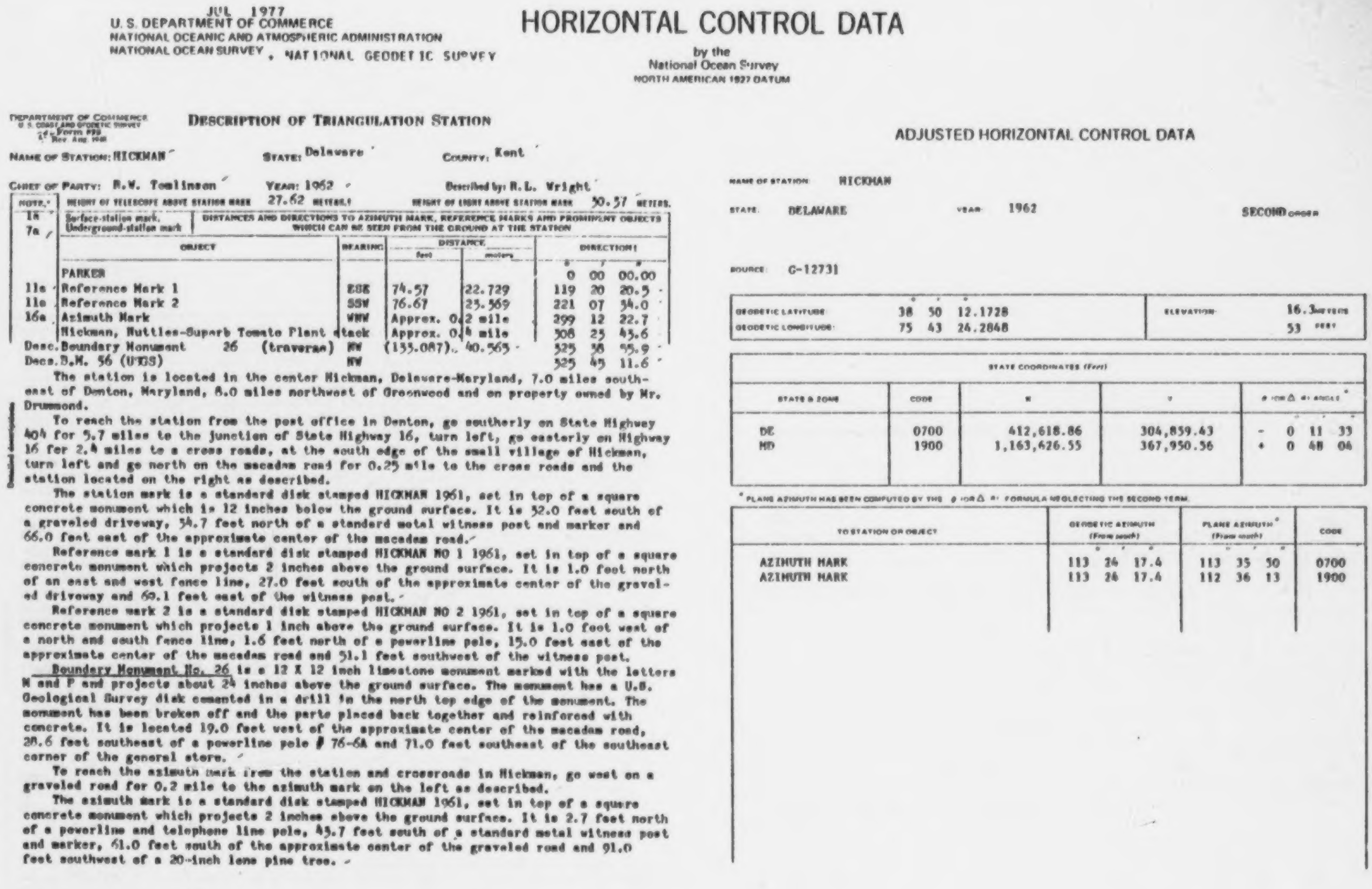
	° ′ ″		
GEODETIC LATITUDE:	39 21 33.1781	ELEVATION:	20 METERS
GEODETIC LONGITUDE:	75 45 56.6974	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	401,289.77	495,209.21	- 0 13 17
MD	1900	1,148,995.13	558,066.57	+ 0 46 29

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
HERRINGS AZ MK	128 16 10.9	128 29 28	0700
HERRINGS AZ MK	128 16 10.9	127 29 42	1900

POSITION DETERMINED BY TRAVERSE FROM STATION HERRINGS AZ MK



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: HICKMAN   STATE: Delaware   COUNTY: Kent

CHIEF OF PARTY: R.W. Tomlinson   YEAR: 1962   Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.62 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30.57 METERS.

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	'	"
1a	Surface-station mark.						
7a	Underground-station mark						
	PARKER				0	00	00.00
11e	Reference Mark 1	ESE	74.57	22.729	119	20	20.5
11e	Reference Mark 2	SSW	76.67	23.369	221	07	34.0
16a	Azimuth Mark	WNW	Approx. 0.2 mile		299	12	22.7
	Hickman, Nuttles-Superb Tomato Plant stack		Approx. 0.4 mile		308	25	43.6
Desc.	Boundary Monument 26 (traverse)	NW	(133.087)	40.565	325	38	55.9
Desc.	B.M. 56 (USGS)	NW			325	45	11.6

The station is located in the center Hickman, Delaware-Maryland, 7.0 miles southeast of Denton, Maryland, 8.0 miles northwest of Greenwood and on property owned by Mr. Drummond.

To reach the station from the post office in Denton, go southerly on State Highway 404 for 5.7 miles to the junction of State Highway 16, turn left, go easterly on Highway 16 for 2.4 miles to a cross roads, at the south edge of the small village of Hickman, turn left and go north on the macadam road for 0.25 mile to the cross roads and the station located on the right as described.

The station mark is a standard disk stamped HICKMAN 1961, set in top of a square concrete monument which is 12 inches below the ground surface. It is 32.0 feet south of a graveled driveway, 34.7 feet north of a standard metal witness post and marker and 66.0 feet east of the approximate center of the macadam road.

Reference mark 1 is a standard disk stamped HICKMAN NO 1 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.0 foot north of an east and west fence line, 27.0 feet south of the approximate center of the graveled driveway and 69.1 feet east of the witness post.

Reference mark 2 is a standard disk stamped HICKMAN NO 2 1961, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 1.0 foot west of a north and south fence line, 1.6 feet north of a powerline pole, 15.0 feet east of the approximate center of the macadam road and 51.1 feet southwest of the witness post.

Boundary Monument No. 26 is a 12 X 12 inch limestone monument marked with the letters M and P and projects about 24 inches above the ground surface. The monument has a U.S. Geological Survey disk cemented in a drill in the north top edge of the monument. The monument has been broken off and the parts placed back together and reinforced with concrete. It is located 19.0 feet west of the approximate center of the macadam road, 28.6 feet southeast of a powerline pole # 76-6A and 71.0 feet southeast of the southeast corner of the general store.

To reach the azimuth mark from the station and crossroads in Hickman, go west on a graveled road for 0.2 mile to the azimuth mark on the left as described.

The azimuth mark is a standard disk stamped HICKMAN 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 2.7 feet north of a powerline and telephone line pole, 43.7 feet south of a standard metal witness post and marker, 61.0 feet south of the approximate center of the graveled road and 91.0 feet southwest of a 20-inch lone pine tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: HICKMAN

STATE: DELAWARE   YEAR: 1962   SECOND ORDER

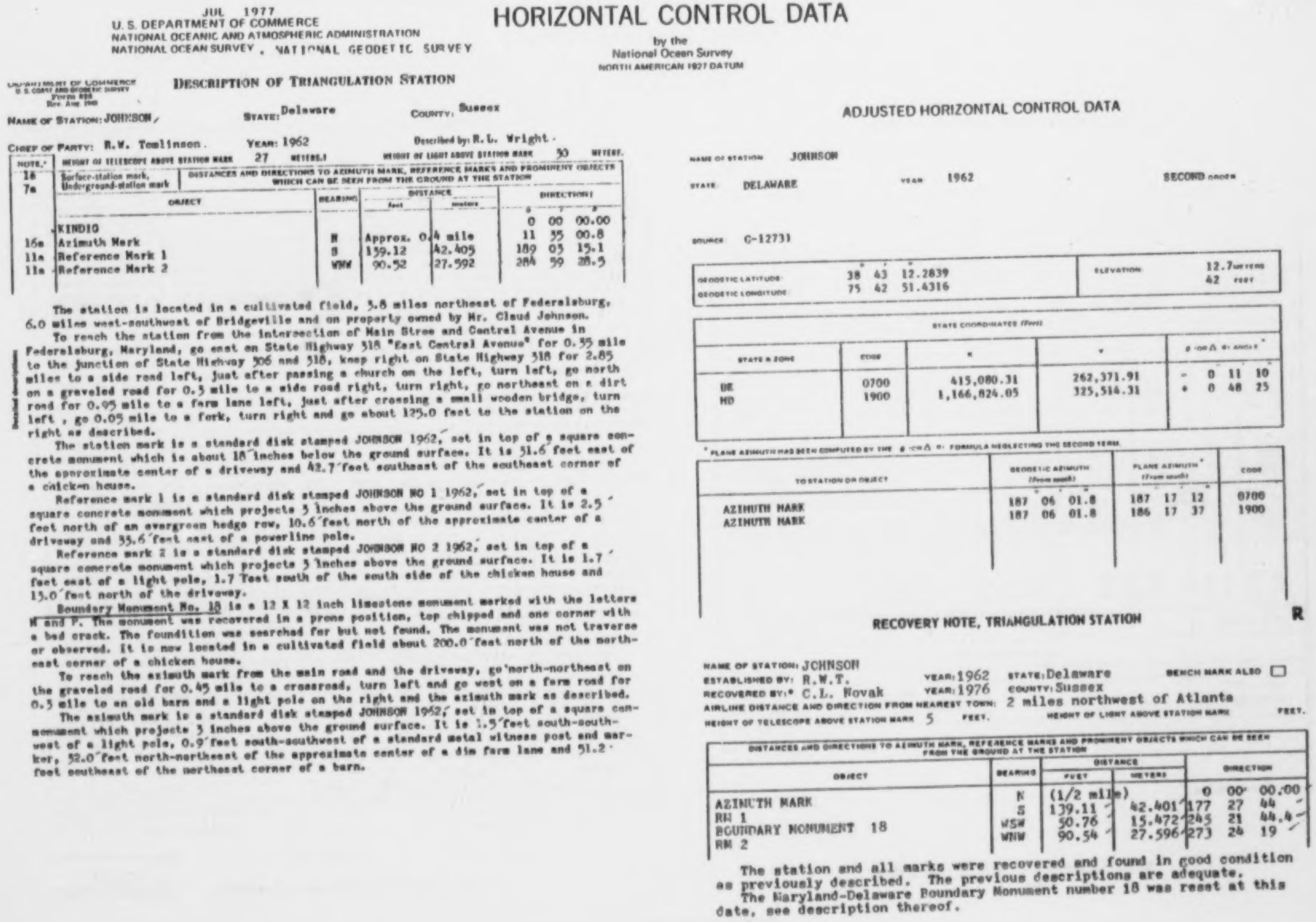
SOURCE: G-12731

	°	'	"		
GEODETIC LATITUDE:	38	50	12.1728	ELEVATION:	16.3 METERS
GEODETIC LONGITUDE:	75	43	24.2848		53 FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* °	'	"
DE	0700	412,618.86	304,859.43	- 0	11	33
MD	1900	1,163,626.55	367,950.36	+ 0	48	06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	'	"	PLANE AZIMUTH* (From south) °	'	"	CODE
AZIMUTH MARK	113	24	17.4	113	35	50	0700
AZIMUTH MARK	113	24	17.4	112	36	13	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1949

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: JOHNSON STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R.W. Tomlinson. YEAR: 1962 Described by: R.L. Wright.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS.				HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.
18 / 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	KINDIO				0 00 00.00
16a	Azimuth Mark	N	Approx. 0.4 mile		11 55 00.8
11a	Reference Mark 1	S	139.12	42.405	189 05 15.1
11a	Reference Mark 2	WNW	90.52	27.592	284 59 28.5

The station is located in a cultivated field, 3.8 miles northeast of Federalsburg, 6.0 miles west-southwest of Bridgeville and on property owned by Mr. Claud Johnson.

To reach the station from the intersection of Main Stree and Central Avenue in Federalsburg, Maryland, go east on State Highway 318 "East Central Avenue" for 0.35 mile to the junction of State Highway 306 and 318, keep right on State Highway 318 for 2.85 miles to a side road left, just after passing a church on the left, turn left, go north on a graveled road for 0.3 mile to a side road right, turn right, go northeast on a dirt road for 0.95 mile to a farm lane left, just after crossing a small wooden bridge, turn left , go 0.05 mile to a fork, turn right and go about 125.0 feet to the station on the right as described.

The station mark is a standard disk stamped JOHNSON 1962, set in top of a square concrete monument which is about 18 inches below the ground surface. It is 31.6 feet east of the approximate center of a driveway and 42.7 feet southeast of the southeast corner of a chicken house.

Reference mark 1 is a standard disk stamped JOHNSON NO 1 1962, set in top of a square concrete monument which projects 3 inches above the ground surface. It is 2.5 feet north of an evergreen hedge row, 10.6 feet north of the approximate center of a driveway and 35.6 feet east of a powerline pole.

Reference mark 2 is a standard disk stamped JOHNSON NO 2 1962, set in top of a square concrete monument which projects 3 inches above the ground surface. It is 1.7 feet east of a light pole, 1.7 feet south of the south side of the chicken house and 13.0 feet north of the driveway.

Boundary Monument No. 18 is a 12 X 12 inch limestone monument marked with the letters M and P. The monument was recovered in a prone position, top chipped and one corner with a bad crack. The foundition was searched for but not found. The monument was not traverse or observed. It is now located in a cultivated field about 200.0 feet north of the northeast corner of a chicken house.

To reach the azimuth mark from the main road and the driveway, go north-northeast on the graveled road for 0.45 mile to a crossroad, turn left and go west on a farm road for 0.3 mile to an old barn and a light pole on the right and the azimuth mark as described.

The azimuth mark is a standard disk stamped JOHNSON 1962, set in top of a square concrete monument which projects 3 inches above the ground surface. It is 1.5 feet south-southwest of a light pole, 0.9 feet south-southwest of a standard metal witness post and marker, 32.0 feet north-northeast of the approximate center of a dim farm lane and 51.2 feet southeast of the northeast corner of a barn.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION JOHNSON
STATE DELAWARE YEAR 1962 SECOND ORDER
SOURCE C-12731

	° ′ ″		
GEODETIC LATITUDE	38 43 12.2839	ELEVATION	12.7 METERS
GEODETIC LONGITUDE	75 42 51.4316		42 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	415,080.31	262,371.91	- 0 11 10
MD	1900	1,166,824.05	325,514.31	+ 0 48 25

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	187 06 01.8	187 17 12	0700
AZIMUTH MARK	187 06 01.8	186 17 37	1900

R

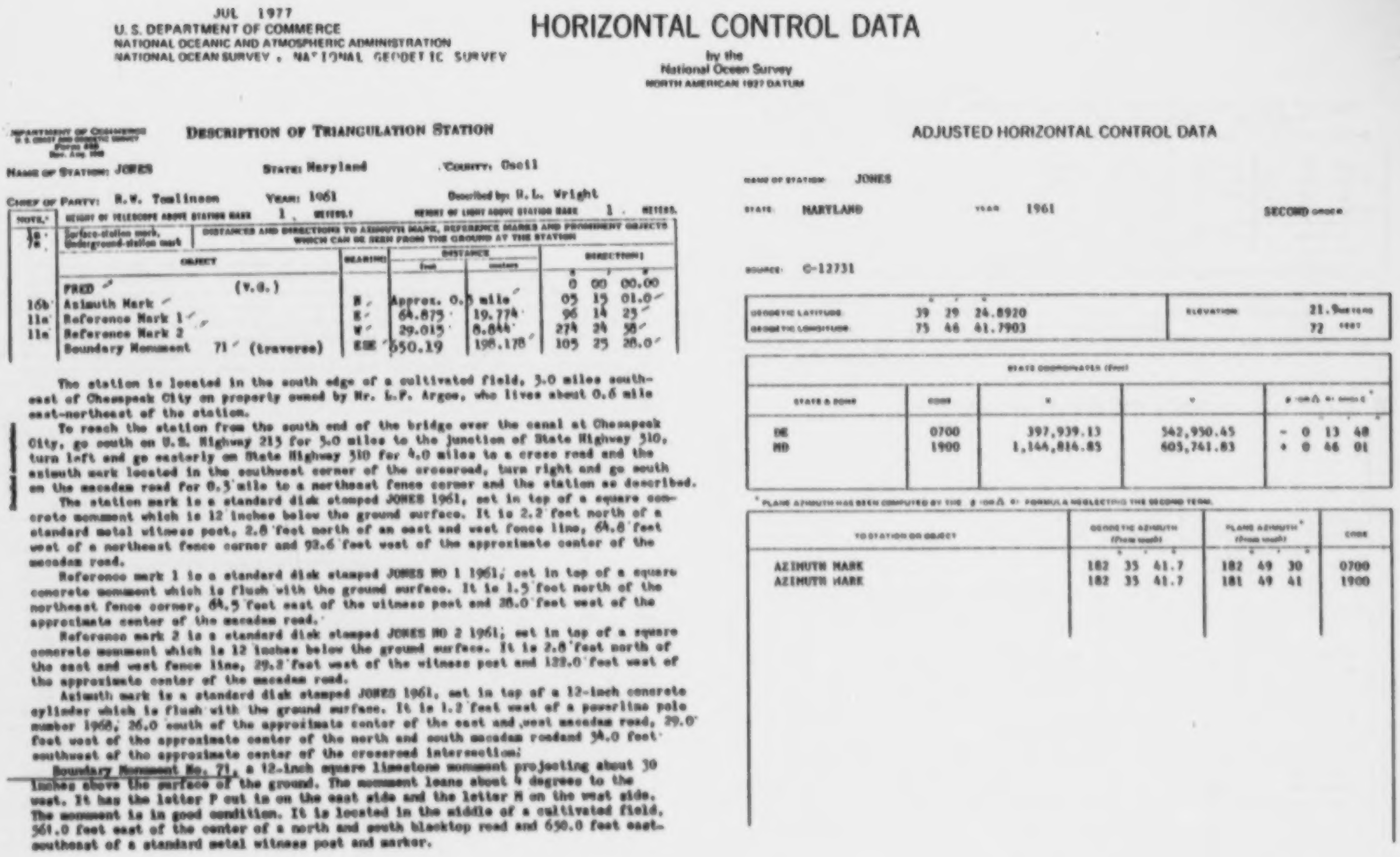
RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: JOHNSON
ESTABLISHED BY: R.W.T. YEAR: 1962 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles northwest of Atlanta
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	N	(1/2 mile)		0 00 00.00
RM 1	S	139.11	42.401	177 27 44
BOUNDARY MONUMENT 18	WSW	50.76	15.472	245 21 44.4
RM 2	WNW	90.54	27.596	273 24 19

The station and all marks were recovered and found in good condition as previously described. The previous descriptions are adequate.

The Maryland-Delaware Boundary Monument number 18 was reset at this date, see description thereof.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

Name of Station: JONES State: Maryland County: Cecil

Chief of Party: R.W. Tomlinson Year: 1961 Described by: R.L. Wright

NOTE	Height of telescope above station mark 1 meters							Height of light above station mark 1 meters
1a, 7a	Surface-station mark, Underground-station mark	Distances and directions to azimuth mark, reference marks and prominent objects which can be seen from the ground at the station						
	OBJECT	BEARING	DISTANCE		DIRECTION			
			feet	meters	°	′	″	
	FRED (V.G.)				0	00	00.00	
16b	Azimuth Mark	N	Approx. 0.5 mile		05	15	01.0	
11a	Reference Mark 1	E	64.875	19.774	96	14	25	
11a	Reference Mark 2	W	29.015	8.844	274	24	58	
	Boundary Monument 71 (traverse)	ESE	650.19	198.178	105	25	28.0	

The station is located in the south edge of a cultivated field, 3.0 miles southeast of Chesapeak City on property owned by Mr. L.P. Argoe, who lives about 0.6 mile east-northeast of the station.

To reach the station from the south end of the bridge over the canal at Chesapeak City, go south on U.S. Highway 213 for 3.0 miles to the junction of State Highway 310, turn left and go easterly on State Highway 310 for 4.0 miles to a cross road and the azimuth mark located in the southwest corner of the crossroad, turn right and go south on the macadam road for 0.3 mile to a northeast fence corner and the station as described.

The station mark is a standard disk stamped JONES 1961, set in top of a square concrete monument which is 12 inches below the ground surface. It is 2.2 feet north of a standard metal witness post, 2.8 feet north of an east and west fence line, 64.8 feet west of a northeast fence corner and 92.6 feet west of the approximate center of the macadam road.

Reference mark 1 is a standard disk stamped JONES NO 1 1961; set in top of a square concrete monument which is flush with the ground surface. It is 1.5 feet north of the northeast fence corner, 64.5 feet east of the witness post and 28.0 feet west of the approximate center of the macadam road.

Reference mark 2 is a standard disk stamped JONES NO 2 1961; set in top of a square concrete monument which is 12 inches below the ground surface. It is 2.8 feet north of the east and west fence line, 29.2 feet west of the witness post and 122.0 feet west of the approximate center of the macadam road.

Azimuth mark is a standard disk stamped JONES 1961, set in top of a 12-inch concrete cylinder which is flush with the ground surface. It is 1.2 feet west of a powerline pole number 1968, 26.0 south of the approximate center of the east and west macadam road, 29.0 feet west of the approximate center of the north and south macadam roadand 34.0 feet southwest of the approximate center of the crossroad intersection.

Boundary Monument No. 71, a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. The monument leans about 4 degrees to the west. It has the letter P cut in on the east side and the letter M on the west side. The monument is in good condition. It is located in the middle of a cultivated field, 561.0 feet east of the center of a north and south blacktop road and 650.0 feet east-southeast of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION JONES

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE C-12731

	°	′	″		
GEODETIC LATITUDE	39	29	24.8920	ELEVATION	21.9 METERS
GEODETIC LONGITUDE	75	46	41.7903		72 FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δα) OR ANGLE*		
				°	′	″
DE	0700	397,939.13	342,950.45	- 0	13	48
MD	1900	1,144,816.85	605,741.83	+ 0	46	01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)			PLANE AZIMUTH* (From south)			CODE
	°	′	″	°	′	″	
AZIMUTH MARK	182	35	41.7	182	49	30	0700
AZIMUTH MARK	182	35	41.7	181	49	41	1900

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: KENT
State: Delaware
County: Kent
Chief of Party: R.W. Tomlinson
Year: 1961
Described by: V.D. Novak
Height of telescope above station mark 1 meters.
Height of light above station mark 1 meters.

Surface-station mark, 16
Underground-station mark 7a

Notes	Object	Bearing	Distance Feet	Distance Meters	Direction °	′	″
16b	KENT Azimuth mark (The azimuth mark was Observed and Geodimeter to.)	E			00	00	00.0
Desc.	Boundary Monument 55 (traverse)	SW	(99.32)	30.273	144	40	59.2
Desc.	BM H13 (R.M. 2)	W	63.76	19.434	183	19	55.8
11b	R.M. 1	N	47.12	14.363	279	57	46.4

Detailed description:

The station is located about 5 1/2 miles northwest of Kenton, Delaware, 4 1/2 miles east of Millington, Maryland and at the Maryland and Delaware State Line. On property owned by the State.

To reach the station from the crossroad in Millington, go easterly on State Highway 291 for 4.6 miles to the Delaware-Maryland State Line and the station on the right, continue easterly on highway for 0.65 miles to the azimuth mark on the left.

Station, is a standard disk set in the top of a concrete cylinder which is flush with the surface of the ground, stamped "KENT 1961". It is 62.7 feet east of the north side of Delaware-Maryland State Line sign and 32.3 feet south of the approximate center of state highway 291 and 3.0 feet north of a standard metal witness post and marker.

Reference mark 1, is a standard disk set in the top of a concrete cylinder which is flush with the surface of the ground, stamped "KENT NO 1 1961". It is 49.7 feet north of a standard metal witness post and marker, 76.5 feet northeast of the north side of the Delaware-Maryland State Line sign and 24.7 feet north of the approximate center of State Highway 291.

BM H13, is a standard bench mark disk set in the top of a 6 x 6 inch concrete monument which projects about 3 inches above the surface of the ground, stamped "H 13 1942". It is 64.1 feet west of a standard metal witness post and marker, 9.6 feet south of the north side of the Delaware-Maryland State Line sign and 26.4 feet south of the approximate center of State Highway 291.

Azimuth mark, is a standard disk set in the top of a concrete cylinder which projects about 2 inches above the surface of the ground, stamped "KENT 1961". It is 48.0 feet northeast of the T-road junction, 28.2 feet north of State Highway 6, 3.5 feet east-southeast of telephone pole number 244 and 3.4 feet north of a standard metal witness post and marker.

Boundary Monument NO.55, a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. It has the letter P cut in the east side and the letter M on the west side. The monument is sitting plumb and in good condition. A small cross was inscribed in its top and center for traverse purpose. It is 96.0 feet south of the centerline of State Highway 6, 98.0 feet southwest of a standard metal witness post and marker, 67.0 feet south of Delaware and Maryland State Line metal sign and is in a cultivated field.

ADJUSTED HORIZONTAL CONTROL DATA

Name of station KENT
State DELAWARE
Year 1961
SECOND order

Source G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″	
Geodetic latitude	39	15	28.4155	Elevation SCALED 28 feet
Geodetic longitude	75	45	25.6931	

State & Zone	Code	X	Y	θ (or Δ α) angle* °	′	″
DE	0700	403,601.88	458,294.48	- 0	12	56
MD	1900	1,151,948.35	521,198.61	+ 0	46	48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

To station or object	Geodetic azimuth (From south) °	′	″	Plane azimuth* (From south) °	′	″	Code
KENT AZ MK	252	15	34.6	252	28	30	0700
KENT AZ MK	252	15	34.6	251	28	46	1900

POSITION DETERMINED BY TRAVERSE FROM STATION KENT AZ MK

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: KINDIG   STATE: Maryland   COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson   YEAR: 1962   Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.63 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE.* 1a Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	CHARLES				00	00	00.0
11a	Reference Mark 3	NE	195.06	59.452	32	52	07.2
11a	Reference Mark 1	ENE	81.69	24.900	63	53	16.7
Desc.	Boundary Monument 19 (traverse)	E	(42.634)	12.995	83	39	12.6
11a	Reference Mark 2	NW	79.885	24.349	297	36	27.9

The station is located in dense woods land, on property owned by Mr. Gilbert Kindig, about 6.0 miles west of Briggsville, Delaware and about 4.0 miles northeast of Federalsburg, Maryland.

To reach the station from the intersection of Main Street and Central Avenue in Federalsburg, Maryland; go east on State Highway 318, East Central Avenue, for 0.35 mile to the junction of State Highways 318 and 306 to a fork. Take the left hand fork and go north-northeast on State Highway 306 for 3.5 miles to a side road on the right, east, side of the highway, just after passing a small Tavern on the right hand side of the highway. Turn right and go east-northeast on a graveled road for 0.5 mile to a farm lane of the left hand side of the graveled road. Turn left and go west on the farm lane for 0.24 mile to a farm home and the east end of a small garage. Turn right and go east-northeast on a track road along the east side of a chicken house for a short distance to the edge of a cultivated field; continue northeast on a field track road for 0.13 mile to the edge of a woods and the entrance of a woods road , continue northeast and east on the woods road for 0.2 mile to where the woods road makes a 90 degree turn to the left, a standard metal witness post, Boundary Monument No. 19 and the station on the right, hand side of the woods road.

The station mark, a standard disk stamped KINDIG 1962, is set in the top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 31.5 feet west-northwest of a 4-trunked oak tree, 22.6 feet south-southwest of the approximate centerline of the track woods road and 5.5 feet north-northwest of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped KINDIG NO 1 1962, is set in the top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 82.0 feet east-northeast of a standard metal witness post and marker, 51.0 feet east-northeast of a standard metal witness post and marker, 12.0 feet southeast of the approximate centerline of the track woods road and is about the same elevation as the station.

Reference mark 2, a standard disk stamped KINDIG NO 2 1962, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 84.0 feet northwest of the standard metal witness post and marker, 8.0 feet north of the approximate centerline of the woods road and is about 6 inches lower than the station.

Reference mark 3, a standard disk stamped KINDIG NO 3 1962, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 172.0 feet northeast of the approximate centerline of the woods road and 2.0 feet south-southwest of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: KINDIG

STATE: MARYLAND   YEAR: 1962   SECOND ORDER

SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE:	38	44	07.3468	ELEVATION:	13.2 METERS
GEODETIC LONGITUDE:	75	42	56.9432		43 FEET

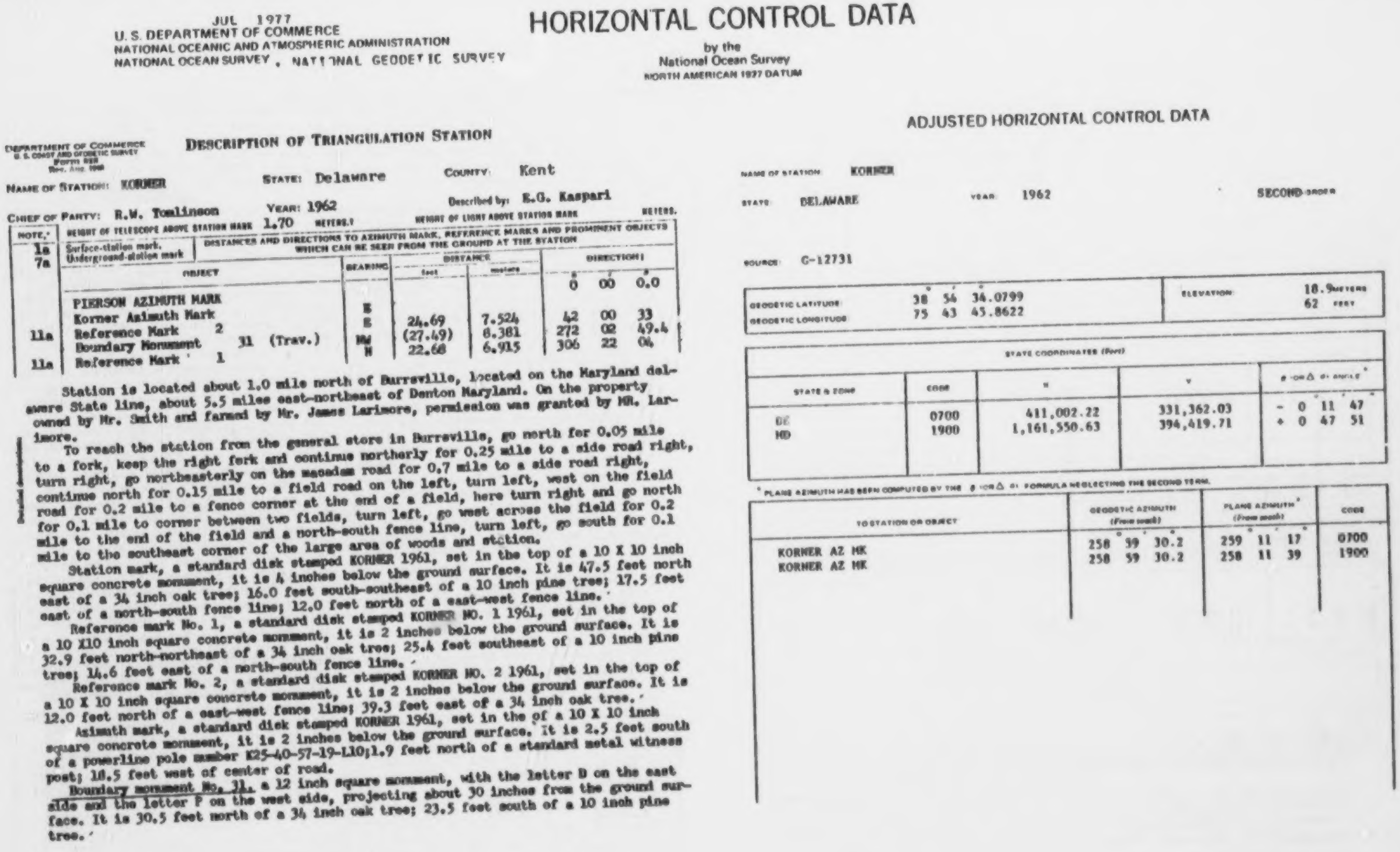
STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
DE	0700	414,661.67	267,943.83	− 0 11 16
MD	1900	1,166,308.92	331,077.86	+ 0 48 22

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
CHARLES	176° 15′ 00.5″	176° 26′ 14″	0700
CHARLES	176 15 00.5	175 26 39	1900

Boundary Monument No. 19, is a 12-inch square granite stone projecting about 30 inches above the surface of the ground, with the letter M cut in on the west side and the letter P on the east side. The monument was recovered in good condition, sturdy and plumb. It is 38.7 feet east-northeast of a standard metal witness post and marker, 13.0 feet south of the approximate center line of a track woods road and 9.6 feet southeast of a 4-trunked oak tree.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: KORNER
STATE: Delaware
COUNTY: Kent
CHIEF OF PARTY: R.W. Tomlinson
YEAR: 1962
Described by: E.G. Kaspari
HEIGHT OF TELESCOPE ABOVE STATION MARK 1.70 METERS.
HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	'	"
1a 7a	Surface-station mark. Underground-station mark						
	PIERSON AZIMUTH MARK				0	00	0.0
	Korner Azimuth Mark	E			42	00	33
11a	Reference Mark 2	E	24.69	7.524	272	02	49.4
	Boundary Monument 31 (Trav.)	NW	(27.49)	8.381	306	22	04
11a	Reference Mark 1	N	22.68	6.915			

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

Station is located about 1.0 mile north of Burrsville, located on the Maryland delaware State line, about 5.5 miles east-northeast of Denton Maryland. On the property owned by Mr. Smith and farmed by Mr. James Larimore, permission was granted by MR. Larimore.

To reach the station from the general store in Burrsville, go north for 0.05 mile to a fork, keep the right fork and continue northerly for 0.25 mile to a side road right, turn right, go northeasterly on the macadam road for 0.7 mile to a side road right, continue north for 0.15 mile to a field road on the left, turn left, west on the field road for 0.2 mile to a fence corner at the end of a field, here turn right and go north for 0.1 mile to corner between two fields, turn left, go west across the field for 0.2 mile to the end of the field and a north-south fence line, turn left, go south for 0.1 mile to the southeast corner of the large area of woods and station.

Station mark, a standard disk stamped KORNER 1961, set in the top of a 10 X 10 inch square concrete monument, it is 4 inches below the ground surface. It is 47.5 feet north east of a 34 inch oak tree; 16.0 feet south-southeast of a 10 inch pine tree; 17.5 feet east of a north-south fence line; 12.0 feet north of a east-west fence line.

Reference mark No. 1, a standard disk stamped KORNER NO. 1 1961, set in the top of a 10 X10 inch square concrete monument, it is 2 inches below the ground surface. It is 32.9 feet north-northeast of a 34 inch oak tree; 25.4 feet southeast of a 10 inch pine tree; 14.6 feet east of a north-south fence line.

Reference mark No. 2, a standard disk stamped KORNER NO. 2 1961, set in the top of a 10 X 10 inch square concrete monument, it is 2 inches below the ground surface. It is 12.0 feet north of a east-west fence line; 39.3 feet east of a 34 inch oak tree.

Azimuth mark, a standard disk stamped KORNER 1961, set in the of a 10 X 10 inch square concrete monument, it is 2 inches below the ground surface. It is 2.5 feet south of a powerline pole number K25-40-57-19-L10;1.9 feet north of a standard metal witness post; 18.5 feet west of center of road.

Boundary monument No. 31, a 12 inch square monument, with the letter D on the east side and the letter P on the west side, projecting about 30 inches from the ground surface. It is 30.5 feet north of a 34 inch oak tree; 23.5 feet south of a 10 inch pine tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: KORNER
STATE: DELAWARE
YEAR: 1962
SECOND ORDER
SOURCE: G-12731

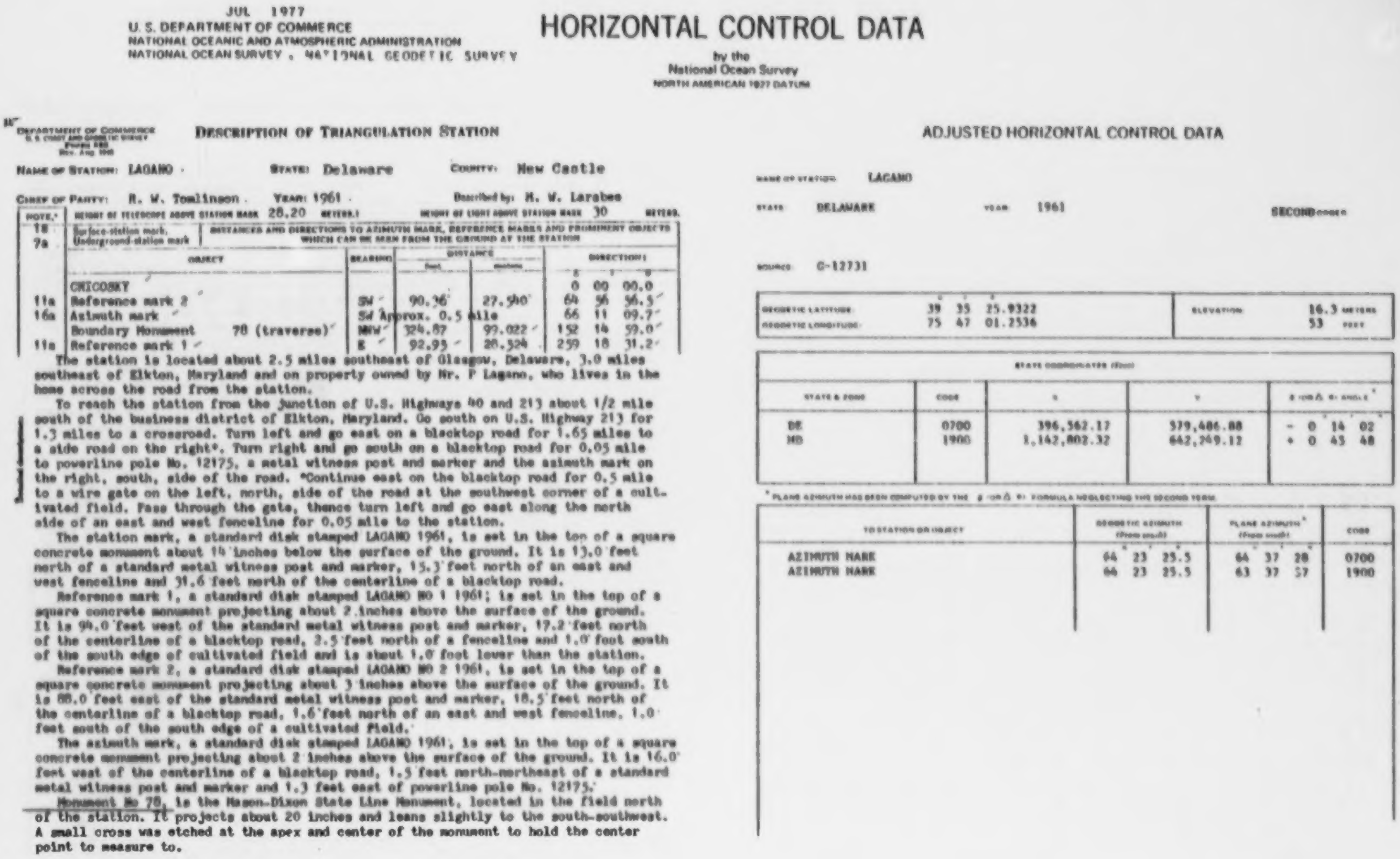
	°	'	"		
GEODETIC LATITUDE	38	54	34.0799	ELEVATION	18.9 METERS
GEODETIC LONGITUDE	75	43	43.8622		62 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	411,002.22	331,362.03	- 0 11 47
MD	1900	1,161,550.63	394,419.71	+ 0 47 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
KORNER AZ MK	258 59 30.2	259 11 17	0700
KORNER AZ MK	258 59 30.2	258 11 39	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LAGANO STATE: Delaware COUNTY: New Castle

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: H. W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 28.20 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE						
1B	Surface-station mark.					
7a	Underground-station mark					

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE Feet	DISTANCE Meters	DIRECTION ° ′ ″
	CHICOSKY				0 00 00.0
11a	Reference mark 2	SW	90.36	27.540	64 56 56.5
16a	Azimuth mark	SW	Approx. 0.5 mile		66 11 09.7
	Boundary Monument 78 (traverse)	NNW	324.87	99.022	152 14 59.0
11a	Reference mark 1	E	92.93	28.324	259 18 31.2

The station is located about 2.5 miles southeast of Glasgow, Delaware, 3.0 miles southeast of Elkton, Maryland and on property owned by Mr. P Lagano, who lives in the home across the road from the station.

To reach the station from the junction of U.S. Highways 40 and 213 about 1/2 mile south of the business district of Elkton, Maryland. Go south on U.S. Highway 213 for 1.3 miles to a crossroad. Turn left and go east on a blacktop road for 1.65 miles to a side road on the right*. Turn right and go south on a blacktop road for 0.05 mile to powerline pole No. 12175, a metal witness post and marker and the azimuth mark on the right, south, side of the road. *Continue east on the blacktop road for 0.5 mile to a wire gate on the left, north, side of the road at the southwest corner of a cultivated field. Pass through the gate, thence turn left and go east along the north side of an east and west fenceline for 0.05 mile to the station.

The station mark, a standard disk stamped LAGANO 1961, is set in the top of a square concrete monument about 14 inches below the surface of the ground. It is 13.0 feet north of a standard metal witness post and marker, 15.3 feet north of an east and west fenceline and 31.6 feet north of the centerline of a blacktop road.

Reference mark 1, a standard disk stamped LAGANO NO 1 1961; is set in the top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 94.0 feet west of the standard metal witness post and marker, 17.2 feet north of the centerline of a blacktop road, 2.5 feet north of a fenceline and 1.0 foot south of the south edge of cultivated field and is about 1.0 foot lower than the station.

Reference mark 2, a standard disk stamped LAGANO NO 2 1961, is set in the top of a square concrete monument projecting about 3 inches above the surface of the ground. It is 88.0 feet east of the standard metal witness post and marker, 18.5 feet north of the centerline of a blacktop road, 1.6 feet north of an east and west fenceline, 1.0 feet south of the south edge of a cultivated field.

The azimuth mark, a standard disk stamped LAGANO 1961, is set in the top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 16.0 feet west of the centerline of a blacktop road, 1.5 feet north-northeast of a standard metal witness post and marker and 1.3 feet east of powerline pole No. 12175.

Monument No 78, is the Mason-Dixon State Line Monument, located in the field north of the station. It projects about 20 inches and leans slightly to the south-southwest. A small cross was etched at the apex and center of the monument to hold the center point to measure to.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION LAGANO

STATE DELAWARE YEAR 1961 SECOND ORDER

SOURCE G-12731

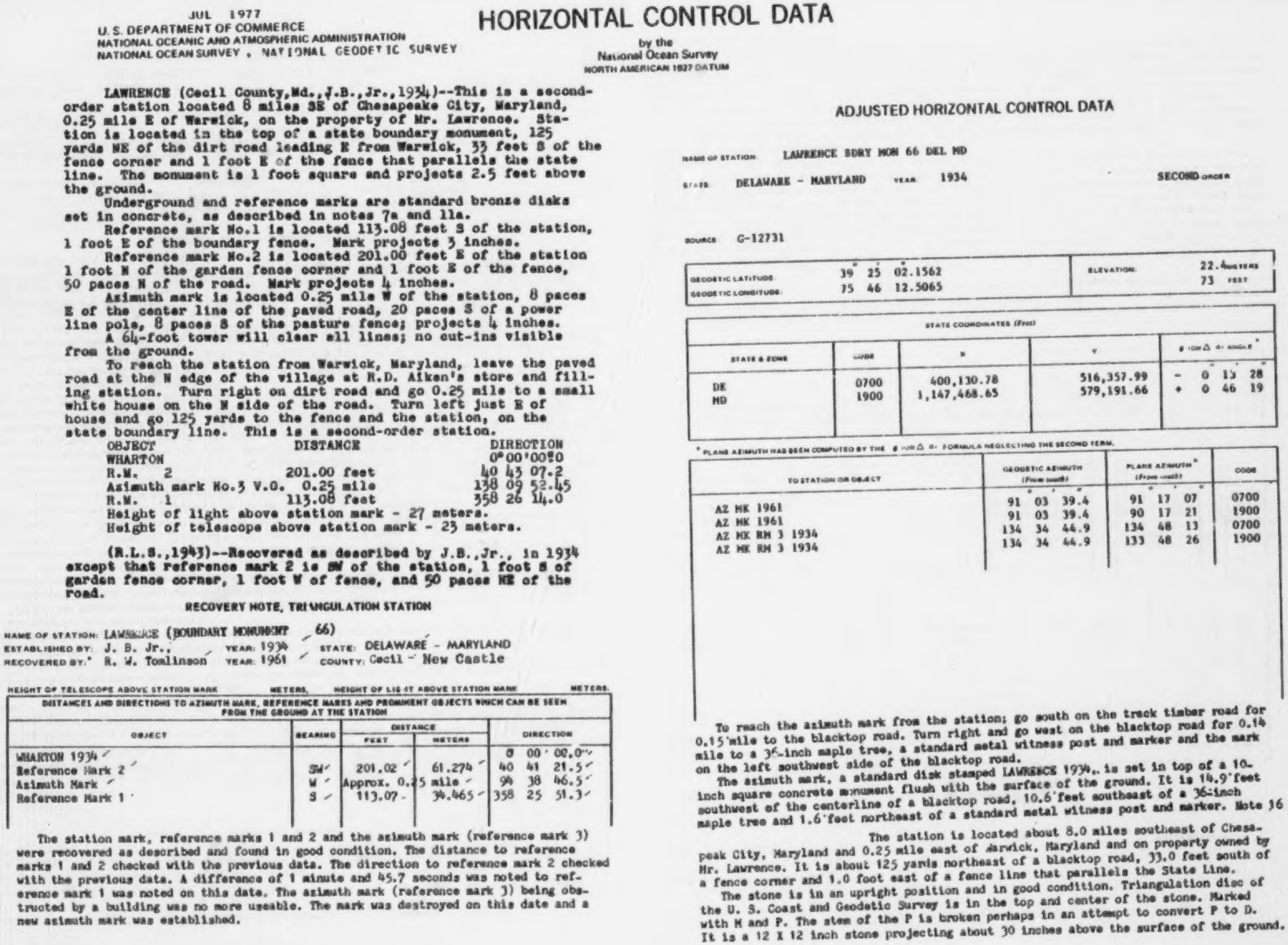
	° ′ ″		
GEODETIC LATITUDE	39 35 25.9322	ELEVATION	16.3 METERS
GEODETIC LONGITUDE	75 47 01.2536		53 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	396,362.17	379,406.88	- 0 14 02
MD	1900	1,142,802.32	642,249.12	+ 0 43 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	64 23 25.5	64 37 28	0700
AZIMUTH MARK	64 23 25.5	63 37 57	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

LAWRENCE (Cecil County,Md.,J.B.,Jr.,1934)--This is a second-order station located 8 miles SE of Chesapeake City, Maryland, 0.25 mile E of Warwick, on the property of Mr. Lawrence. Station is located in the top of a state boundary monument, 125 yards NE of the dirt road leading E from Warwick, 33 feet S of the fence corner and 1 foot E of the fence that parallels the state line. The monument is 1 foot square and projects 2.5 feet above the ground.

Underground and reference marks are standard bronze disks set in concrete, as described in notes 7a and 11a.

Reference mark No.1 is located 113.08 feet S of the station, 1 foot E of the boundary fence. Mark projects 3 inches.

Reference mark No.2 is located 201.00 feet E of the station 1 foot N of the garden fence corner and 1 foot E of the fence, 50 paces N of the road. Mark projects 4 inches.

Azimuth mark is located 0.25 mile W of the station, 8 paces E of the center line of the paved road, 20 paces S of a power line pole, 8 paces S of the pasture fence; projects 4 inches.

A 64-foot tower will clear all lines; no cut-ins visible from the ground.

To reach the station from Warwick, Maryland, leave the paved road at the N edge of the village at R.D. Aiken's store and filling station. Turn right on dirt road and go 0.25 mile to a small white house on the N side of the road. Turn left just E of house and go 125 yards to the fence and the station, on the state boundary line. This is a second-order station.

OBJECT	DISTANCE	DIRECTION
WHARTON		0°00'00".0
R.M. 2	201.00 feet	40 43 07.2
Azimuth mark No.3 V.O.	0.25 mile	138 09 52.45
R.M. 1	113.08 feet	358 26 14.0

Height of light above station mark - 27 meters.
Height of telescope above station mark - 23 meters.

(R.L.S.,1943)--Recovered as described by J.B.,Jr., in 1934 except that reference mark 2 is SW of the station, 1 foot S of garden fence corner, 1 foot W of fence, and 50 paces NE of the road.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: LAWRENCE (BOUNDARY MONUMENT 66)
ESTABLISHED BY: J. B. Jr., YEAR: 1934 STATE: DELAWARE - MARYLAND
RECOVERED BY:* R. W. Tomlinson YEAR: 1961 COUNTY: Cecil - New Castle

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS, HEIGHT OF LIGHT ABOVE STATION MARK METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
WHARTON 1934				0 00' 00.0"
Reference Mark 2	SW	201.02	61.274	40 41 21.5
Azimuth Mark	W	Approx. 0.25 mile		94 38 46.5
Reference Mark 1	S	113.07	34.465	358 25 51.3

The station mark, reference marks 1 and 2 and the azimuth mark (reference mark 3) were recovered as described and found in good condition. The distance to reference marks 1 and 2 checked with the previous data. The direction to reference mark 2 checked with the previous data. A difference of 1 minute and 45.7 seconds was noted to reference mark 1 was noted on this date. The azimuth mark (reference mark 3) being obstructed by a building was no more useable. The mark was destroyed on this date and a new azimuth mark was established.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LAWRENCE BDRY MON 66 DEL MD
STATE: DELAWARE - MARYLAND YEAR: 1934 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 25' 02".1562	ELEVATION:	22.4 METERS
GEODETIC LONGITUDE:	75 46 12.5065		73 FEET

STATE COORDINATES (Feet)

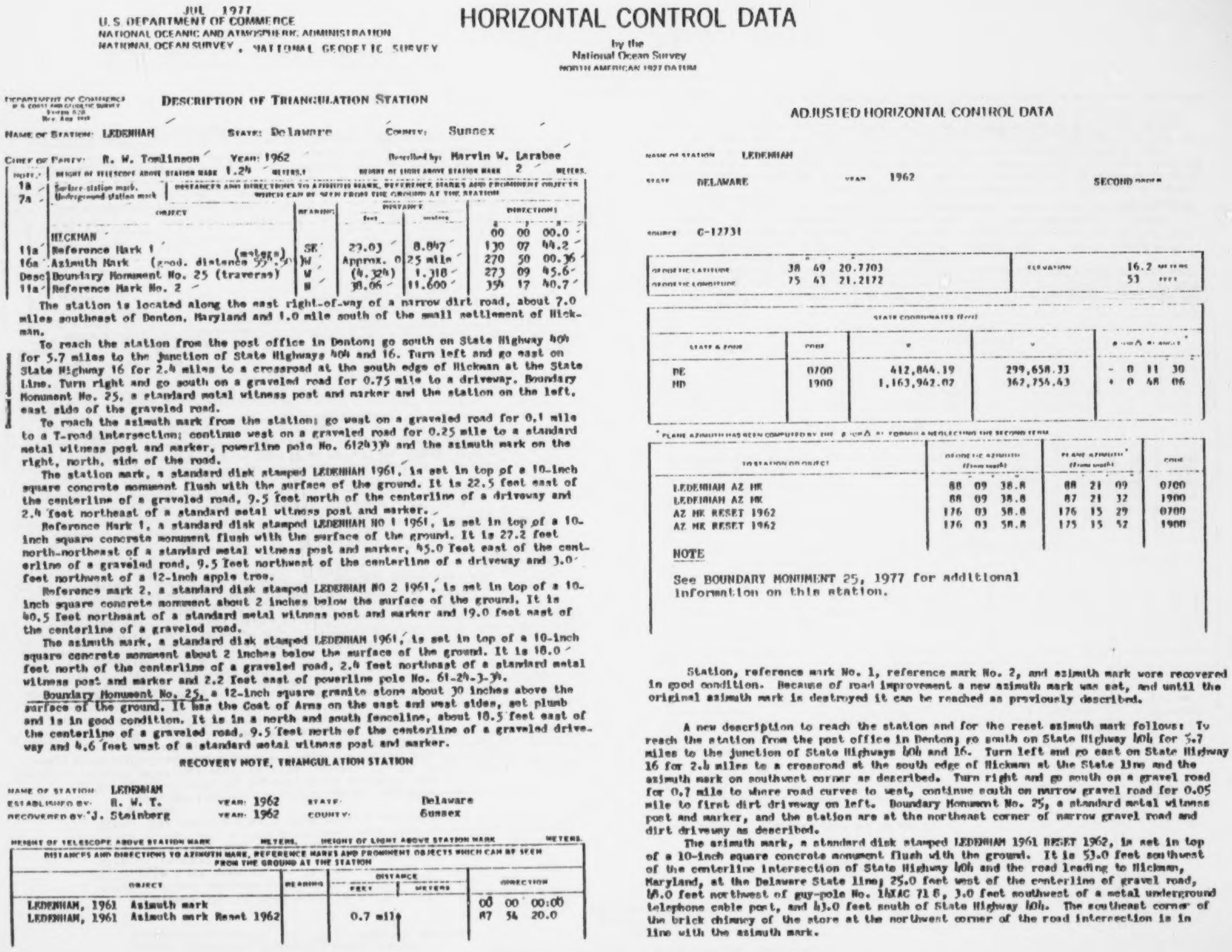
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	400,130.78	516,357.99	- 0° 13' 28"
MD	1900	1,147,468.65	579,191.66	+ 0 46 19

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK 1961	91° 03' 39".4	91° 17' 07"	0700
AZ MK 1961	91 03 39.4	90 17 21	1900
AZ MK RM 3 1934	134 34 44.9	134 48 13	0700
AZ MK RM 3 1934	134 34 44.9	133 48 26	1900

To reach the azimuth mark from the station; go south on the track timber road for
0.15 mile to the blacktop road. Turn right and go west on the blacktop road for 0.14
mile to a 36-inch maple tree, a standard metal witness post and marker and the mark
on the left southwest side of the blacktop road.
The azimuth mark, a standard disk stamped LAWRENCE 1934, is set in top of a 10-
inch square concrete monument flush with the surface of the ground. It is 14.9 feet
southwest of the centerline of a blacktop road, 10.6 feet southeast of a 36-inch
maple tree and 1.6 feet northeast of a standard metal witness post and marker. Note 36 a.

The station is located about 8.0 miles southeast of Chesa-
peak City, Maryland and 0.25 mile east of Warwick, Maryland and on property owned by
Mr. Lawrence. It is about 125 yards northeast of a blacktop road, 33.0 feet south of
a fence corner and 1.0 foot east of a fence line that parallels the State Line.
The stone is in an upright position and in good condition. Triangulation disc of
the U. S. Coast and Geodetic Survey is in the top and center of the stone. Marked
with M and P. The stem of the P is broken perhaps in an attempt to convert P to D.
It is a 12 X 12 inch stone projecting about 30 inches above the surface of the ground.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LEDENHAM STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.24 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE: 1a Surface station mark, 7a Underground station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ' "
	HICKMAN				00 00 00.0
11a	Reference Mark 1	SE	29.03	8.847	130 07 44.2
16a	Azimuth Mark (geod. distance [illegible] (meters))	W	Approx. 0.25 mile		270 50 00.36
Desc	Boundary Monument No. 25 (traverse)	W	(4.324)	1.318	273 09 45.6
11a	Reference Mark No. 2	N	38.06	11.600	354 17 40.7

The station is located along the east right-of-way of a narrow dirt road, about 7.0 miles southeast of Denton, Maryland and 1.0 mile south of the small settlement of Hickman.

To reach the station from the post office in Denton; go south on State Highway 404 for 5.7 miles to the junction of State Highways 404 and 16. Turn left and go east on State Highway 16 for 2.4 miles to a crossroad at the south edge of Hickman at the State Line. Turn right and go south on a graveled road for 0.75 mile to a driveway. Boundary Monument No. 25, a standard metal witness post and marker and the station on the left, east side of the graveled road.

To reach the azimuth mark from the station; go west on a graveled road for 0.1 mile to a T-road intersection; continue west on a graveled road for 0.25 mile to a standard metal witness post and marker, powerline pole No. 6124334 and the azimuth mark on the right, north, side of the road.

The station mark, a standard disk stamped LEDENHAM 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 22.5 feet east of the centerline of a graveled road, 9.5 feet north of the centerline of a driveway and 2.4 feet northeast of a standard metal witness post and marker.

Reference Mark 1, a standard disk stamped LEDENHAM NO 1 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 27.2 feet north-northeast of a standard metal witness post and marker, 45.0 feet east of the centerline of a graveled road, 9.5 feet northwest of the centerline of a driveway and 3.0 feet northwest of a 12-inch apple tree.

Reference mark 2, a standard disk stamped LEDENHAM NO 2 1961, is set in top of a 10-inch square concrete monument about 2 inches below the surface of the ground. It is 40.5 feet northeast of a standard metal witness post and marker and 19.0 feet east of the centerline of a graveled road.

The azimuth mark, a standard disk stamped LEDENHAM 1961, is set in top of a 10-inch square concrete monument about 2 inches below the surface of the ground. It is 18.0 feet north of the centerline of a graveled road, 2.4 feet northeast of a standard metal witness post and marker and 2.2 feet east of powerline pole No. 61-24-3-34.

Boundary Monument No. 25, a 12-inch square granite stone about 30 inches above the surface of the ground. It has the Coat of Arms on the east and west sides, set plumb and is in good condition. It is in a north and south fenceline, about 18.5 feet east of the centerline of a graveled road, 9.5 feet north of the centerline of a graveled driveway and 4.6 feet west of a standard metal witness post and marker.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: LEDENHAM
ESTABLISHED BY: R. W. T. YEAR: 1962 STATE: Delaware
RECOVERED BY: J. Steinberg YEAR: 1962 COUNTY: Sussex

HEIGHT OF TELESCOPE ABOVE STATION MARK METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
LEDENHAM, 1961 Azimuth mark				00 00 00.00
LEDENHAM, 1961 Azimuth mark Reset 1962		0.7 mile		87 54 20.0

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LEDENHAM
STATE: DELAWARE YEAR: 1962 SECOND ORDER
SOURCE: C-12731

GEODETIC LATITUDE	38 49 20.7703	ELEVATION	16.2 METERS
GEODETIC LONGITUDE	75 43 21.2172		53 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	x	y	θ = Δλ sin φ *
DE	0700	412,844.19	299,658.33	- 0 11 30
MD	1900	1,163,962.07	362,754.43	+ 0 48 06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (from south)	PLANE AZIMUTH * (from south)	CODE
LEDENHAM AZ MK	88 09 38.8	88 21 09	0700
LEDENHAM AZ MK	88 09 38.8	87 21 32	1900
AZ MK RESET 1962	176 03 58.8	176 15 29	0700
AZ MK RESET 1962	176 03 58.8	175 15 52	1900

NOTE

See BOUNDARY MONUMENT 25, 1977 for additional information on this station.

Station, reference mark No. 1, reference mark No. 2, and azimuth mark were recovered in good condition. Because of road improvement a new azimuth mark was set, and until the original azimuth mark is destroyed it can be reached as previously described.

A new description to reach the station and for the reset azimuth mark follows: To reach the station from the post office in Denton; go south on State Highway 404 for 5.7 miles to the junction of State Highways 404 and 16. Turn left and go east on State Highway 16 for 2.4 miles to a crossroad at the south edge of Hickman at the State line and the azimuth mark on southwest corner as described. Turn right and go south on a gravel road for 0.7 mile to where road curves to west, continue south on narrow gravel road for 0.05 mile to first dirt driveway on left. Boundary Monument No. 25, a standard metal witness post and marker, and the station are at the northeast corner of narrow gravel road and dirt driveway as described.

The azimuth mark, a standard disk stamped LEDENHAM 1961 RESET 1962, is set in top of a 10-inch square concrete monument flush with the ground. It is 53.0 feet southwest of the centerline intersection of State Highway 404 and the road leading to Hickman, Maryland, at the Delaware State line; 25.0 feet west of the centerline of gravel road, 48.0 feet northwest of guy-pole No. 14XAC 71 B, 3.0 feet southwest of a metal underground telephone cable post, and 43.0 feet south of State Highway 404. The southeast corner of the brick chimney of the store at the northwest corner of the road intersection is in line with the azimuth mark.

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1949

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LEE
STATE: MARYLAND
COUNTY: Caroline
CHIEF OF PARTY: R. W. Tomlinson
YEAR: 1961
Described by: V. D. Novak
HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS.
HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.

NOTE.¹	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	DIRECTION ′	DIRECTION ″
1a 7a	Surface-station mark, Underground-station mark						
	SHOOKLEY				00	00	00.00
Desc.	BOUNDARY MONUMENT 41 (Traverse)	S	358.17	109.169	01	40	59.0
11a	R.M. 2	SSW	55.19	10.724	17	06	45.9
16a	LEE AZIMUTH MARK (Geod. Measurement)	W		352.113	101	57	02.28
11a	R.M. 1	ENE	30.35	9.249	255	48	41.8

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

The station is located about 3.0 miles northwest of Goldsboro Maryland, 2.0 miles southeast of Henderson Maryland and on property owned by Mr. Christopher Lee who lives in the house south of the station.

To reach the station from the main crossroads at the post office in Goldsboro, go southeasterly on the macadam road for 0.6 mile to where the macadam road turns left, continue straight ahead on graveled road for 1.2 miles to the azimuth mark on the left, continue on graveled road for 0.22 mile to the State Line and the station on the right.

Station, is a standard disk set in the top of 10 x 10 inch concrete monument which is about 14 inches below the surface of the ground, stamped "LEE 1961". It is 30.0 feet south of the approximate center of a graveled road, 41.2 feet southeast of the Delaware-Maryland State Line sign and 4.2 feet west of a standard metal witness post and marker.

Reference mark 1, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 14 inches below the surface of the ground, stamped "LEE NO 1 1961". It is 45.0 feet southwest of powerline pole No. 57, 15.5 feet south of the approximated center of a graveled road and 1.6 feet west of a standard metal witness post and marker.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 14 inches below the surface of the ground, stamped "LEE NO 2 1961". It is 65.5 feet south of the approximate center of a graveled road, 63.0 feet southeast of the Delaware-Maryland State Line sign and 1.7 feet north of a standard metal witness post and marker.

Azimuth mark, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 8 inches below the surface of the ground, stamped "LEE 1961". It is 33.0 feet north-northwest of a 10-inch triangular blazed maple tree, 18.1 feet north of the approximate center of a graveled road and 2.7 feet west of a standard metal witness post and marker.

Boundary Monument # 41 is a 12 x 12 inch granite stone which projects about 30 inches above the surface of the ground, in general the monument is in good condition. The monument has the letter M cut in the west side of the monument and the letter P on the east side of it and a small cross was inscribed in its top and the approximate center for traverse purpose on this date. It is 480.0 feet south of the approximate center of a graveled road and 35.0 feet east of a drainage ditch.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LEE
STATE: MARYLAND
YEAR: 1961
SECOND ORDER
SOURCE: G-12731

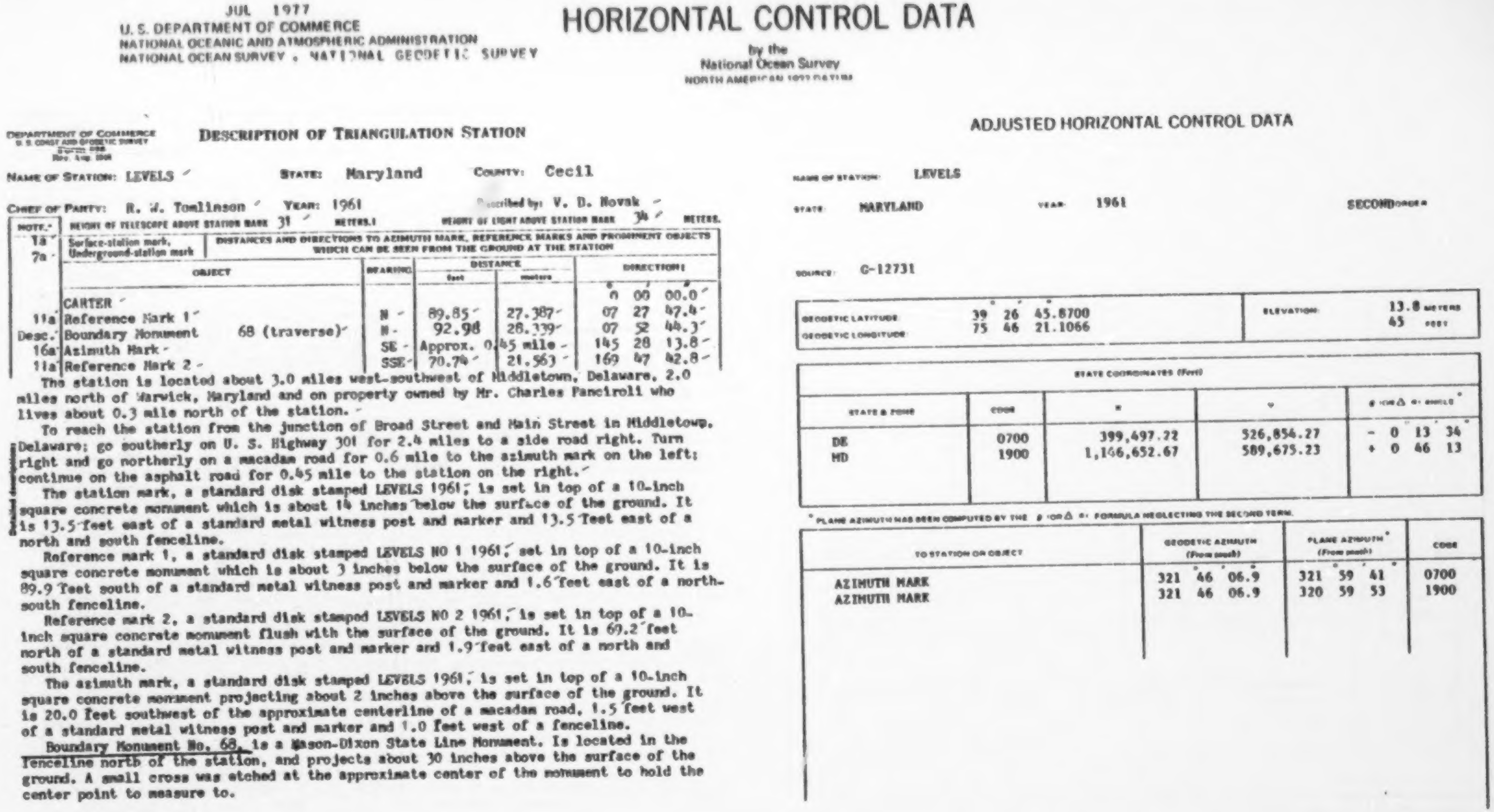
	°	′	″		
GEODETIC LATITUDE	39	03	20.2090	ELEVATION:	14.4 METERS
GEODETIC LONGITUDE	75	44	27.8148		47 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* °	′	″
DE	0700	407,875.51	384,602.45	− 0	12	16
MD	1900	1,157,500.80	447,595.06	+ 0	47	25

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
LEE AZ MK	98	58	12.5	99	10	28	0700
LEE AZ MK	98	58	12.5	98	10	48	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LEVELS   STATE: Maryland   COUNTY: Cecil

CHIEF OF PARTY: R. W. Tomlinson   YEAR: 1961   Described by: V. D. Novak

HEIGHT OF TELESCOPE ABOVE STATION MARK 31 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.

NOTE				DISTANCE		DIRECTION		
1a 7a	Surface-station mark, Underground-station mark							
	OBJECT		BEARING	feet	meters	°	′	″
	CARTER					0	00	00.0
11a	Reference Mark 1		N	89.85	27.387	07	27	47.4
Desc.	Boundary Monument	68 (traverse)	N	92.98	28.339	07	52	44.3
16a	Azimuth Mark		SE	Approx. 0.45 mile		145	28	13.8
11a	Reference Mark 2		SSE	70.74	21.563	169	47	42.8

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

The station is located about 3.0 miles west-southwest of Middletown, Delaware, 2.0 miles north of Warwick, Maryland and on property owned by Mr. Charles Panciroli who lives about 0.3 mile north of the station.

To reach the station from the junction of Broad Street and Main Street in Middletown, Delaware; go southerly on U. S. Highway 301 for 2.4 miles to a side road right. Turn right and go northerly on a macadam road for 0.6 mile to the azimuth mark on the left; continue on the asphalt road for 0.45 mile to the station on the right.

The station mark, a standard disk stamped LEVELS 1961, is set in top of a 10-inch square concrete monument which is about 14 inches below the surface of the ground. It is 13.5 feet east of a standard metal witness post and marker and 13.5 feet east of a north and south fenceline.

Reference mark 1, a standard disk stamped LEVELS NO 1 1961, set in top of a 10-inch square concrete monument which is about 3 inches below the surface of the ground. It is 89.9 feet south of a standard metal witness post and marker and 1.6 feet east of a north-south fenceline.

Reference mark 2, a standard disk stamped LEVELS NO 2 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 69.2 feet north of a standard metal witness post and marker and 1.9 feet east of a north and south fenceline.

The azimuth mark, a standard disk stamped LEVELS 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 20.0 feet southwest of the approximate centerline of a macadam road, 1.5 feet west of a standard metal witness post and marker and 1.0 feet west of a fenceline.

Boundary Monument No. 68, is a Mason-Dixon State Line Monument. Is located in the fenceline north of the station, and projects about 30 inches above the surface of the ground. A small cross was etched at the approximate center of the monument to hold the center point to measure to.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LEVELS

STATE: MARYLAND   YEAR: 1961   SECOND ORDER

SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE	39	26	45.8700	ELEVATION:	13.8 METERS
GEODETIC LONGITUDE	75	46	21.1066		45 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ (or Δ α) ANGLE*
DE	0700	399,497.22	526,854.27	− 0 13 34
MD	1900	1,166,652.67	589,675.23	+ 0 46 13

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	321 46 06.9	321 59 41	0700
AZIMUTH MARK	321 46 06.9	320 59 53	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LOCKERMAN : STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R.W. Tomlinson . YEAR: 1961 . Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.72 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34.51 METERS.

NOTE.*	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
1a. Surface-station mark, 7a. Underground-station mark	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
					0	00	00.00
	LAWRENCE 1934				98	39	35.1
11a	Reference Mark 1	E	78.428	23.905	150	53	23.6
	Boundary Monument 65 (traverse)		99.89	30.4469	204	44	15.0
16a	Azimuth Mark	SSW	Approx. 0.3 mile				
11a.	Reference Mark 2	NW	76.365	23.277	304	29	53.5

The station is located in the north edge of a cultivated field, 1.5 miles south-south-
east of Warwick, 2.0 miles north of Sassafras, 4.0 miles west-northwest of Townsend and on
property owned by Mr. Oye Lockerman.

To reach the station from the post office in Warwick, go east on State Highway 282
for 0.2 mile to a crossroad, turn right and go south on a macadam road for 1.65 miles to
a macadam side road right, turn right and go southwesterly on a narrow macadam road for
2.0 miles to a side road right, turn right and go north for 0.6 mile to Mr. Lockerman's
farm on the right, turn right and go east passing to the right of the barn and continue
east on the field road for 0.2 mile to a creek and dam, continue east along the south
end of the dam for about 100 feet to the west edge of a cultivated field, turn right and
go south along the west edge of the field for about 60 paces to the azimuth mark on the
right" turn left and go north along the west edge of the cultivated field for 0.25 mile to
the northwest corner of the field and the station as described.

The station mark is a standard disk stamped LOCKERMAN 1961, set in top of a square
concrete monument which is 18 inches below the ground surface. It is 12.0 feet south of
the north edge of the cultivated field, 20.2 feet south-southwest of a standard metal
witness post and marker, 20.0 feet south of an east and west fence line, 40.0 feet south-
west of a T-intersection in the east and west, north and south fence line and 40.0 feet
west of a 36-inch 5 trunk maple tree.

Reference mark 1 is a standard disk stamped LOCKERMAN NO 1 1961, set in top of a
square concrete monument which is flush with the ground surface. It is 2.0 feet south of
the east and west fence line, 42.0 feet east of the T-intersection in the fence line and
81.0 feet east of the witness post.

Reference mark 2 is a standard disk stamped LOCKERMAN NO 2 1961, set in top of a
square concrete monument which is flush with the ground surface. It is 2.5 feet south of
the east and west fence line, 5.0 feet west-south west of a 6-inch dead tree stump, 7.0.
feet north of the north edge of the cultivated field and 68.6 feet east of the witness
post.

Boundary Monument No. 65 is a 11 X 11 inch limestone monument bearing the coat of
arms on the east and west side and projects about 18 inches above the ground surface. It
is 85.0 feet south-southwest of the east and west fence line, 96.0 feet south-southwest
of the T-intersection if the fence line and 116.8 feet south-southwest of the witness
post and marker.

Azimuth mark is a standard disk stamped LOCKERMAN 1961, set in top of a square con-
crete monument which projects 3 inches above the ground surface. It is 2.6 feet east-south-
east of a standard metal witness post and marker, 6.0 feet west of the west edge of the
cultivated field, 11.0 feet north of the northeast corner of a woven fence line and 12.0
feet northeast of a 24-inch poplar tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION LOCKERMAN

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

	°	′	″		
GEODETIC LATITUDE	39	24	10.6925	ELEVATION	16.5 METERS
GEODETIC LONGITUDE	75	46	09.0208		56 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ (or Δ α) ANGLE*
DE	0700	400,384.01	511,149.92	− 0 13 26
MD	1900	1,147,812.40	373,988.85	+ 0 46 21

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	21° 43′ 48.0″	21° 57′ 14″	0700
AZIMUTH MARK	21 43 48.0	20 57 27	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 19[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: LONGFELLOW STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. TUMLINSON YEAR: 1962 Described by: E.G. KASPARI

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.70 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30.35 METERS.

NOTE.*	Surface-station mark, Underground-station mark: 1a / 7a — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE		DIRECTION		
			feet	meters	°	′	″
	SHORT				0	00	0.0
11a	Reference Mark 1	NE	84.72	25.823	57	08	52
	Boundary Monument 35 (Trav.)	SE	(85.613)	26.095	144	41	53.1
11a	Reference Mark 2	SSE	67.76	20.653	159	29	42
11a	Reference Mark 3	NW	186.85	56.952	316	34	09.5

Station is located about 1.0 mile north of Whiteleysburg, about 4.0 miles east of Greensboro Maryland, In dence woods land and on the property line between property owned by Mr. Earnest Longfellow and Mr. Hughes.

To reach the station from Greensboro Maryland, go east for 0.4 mile to 3 forks at the junctions of State Highways 313 and 314, keep the middle road Highway 314 and go southeasterly for 3.8 miles to a Y-fork in the west edge of Whiteleysburg, keep the left fork which becomes State Highway 12 and continue easterly for 0.95 mile to a side road left, turn left, go northerly for 0.85 mile on the macadam road to a side road left, turn left, go northwesterly on the macadam road for 0.5 mile to a gate and a farm road on the left, turn left go south for 0.2 mile to the residence of Mr. Kellor Edwards. Continue south along the west edge of field for 0.1 mile to woods, turn left along the north edge of woods for 0.05 mile to a woods road right, turn right, on woods road for 0.2 mile and station on the right.

Station mark, a standard disk stamped LONGFELLOW 1961, set in the top of a 10 X 10 inch square concrete monument, projecting about 2 inches from ground surface. It is 37.0 feet west of a woods road; 19.8 feet northwest of a 10 inch hickory tree with triangle blaze.

Reference Mark No. 1, a standard disk stamped LONGFELLOW NO1 1961, set in the top of a 10 X 10 inch square concrete mommment, and is flush with ground surface. IT is 31.0 feet east of center of woods road; 80.0 feet east-northeast of a 10 inch hickory tree with triangle blaze.

Reference Mark No 2, a standard disk stamped LONGFELLOW NO 2 1961, set in the top of a 10 X 10 inch square concrete monument, projecting about 1 inch from ground surface It is 7.5 feet west of center of woods road; 51.6 feet south-southeast of a 10 inch hickory tree with triangle blaze.

Reference Mark No 3, a standard disk stamped LONGFELLOW NO. 3 1961, set in the top of a 10 X 10 inch square concrete monument, projecting about 3 inches from ground surface. It is 6.0 feet northeast of a dim woods road; 4.8 feet southeast of a 10 inch pine tree.

Boundary Monument No. 35, a 12 inch square monument with a coat of arms on the east and west side, and projects 30 inches from ground surface. It is 6.0 feet southeast of the center of woods road; 66.0 feet east of a 10 inch hickory tree with a triangle blaze.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LONGFELLOW

STATE: MARYLAND YEAR: 1962 SECOND ORDER

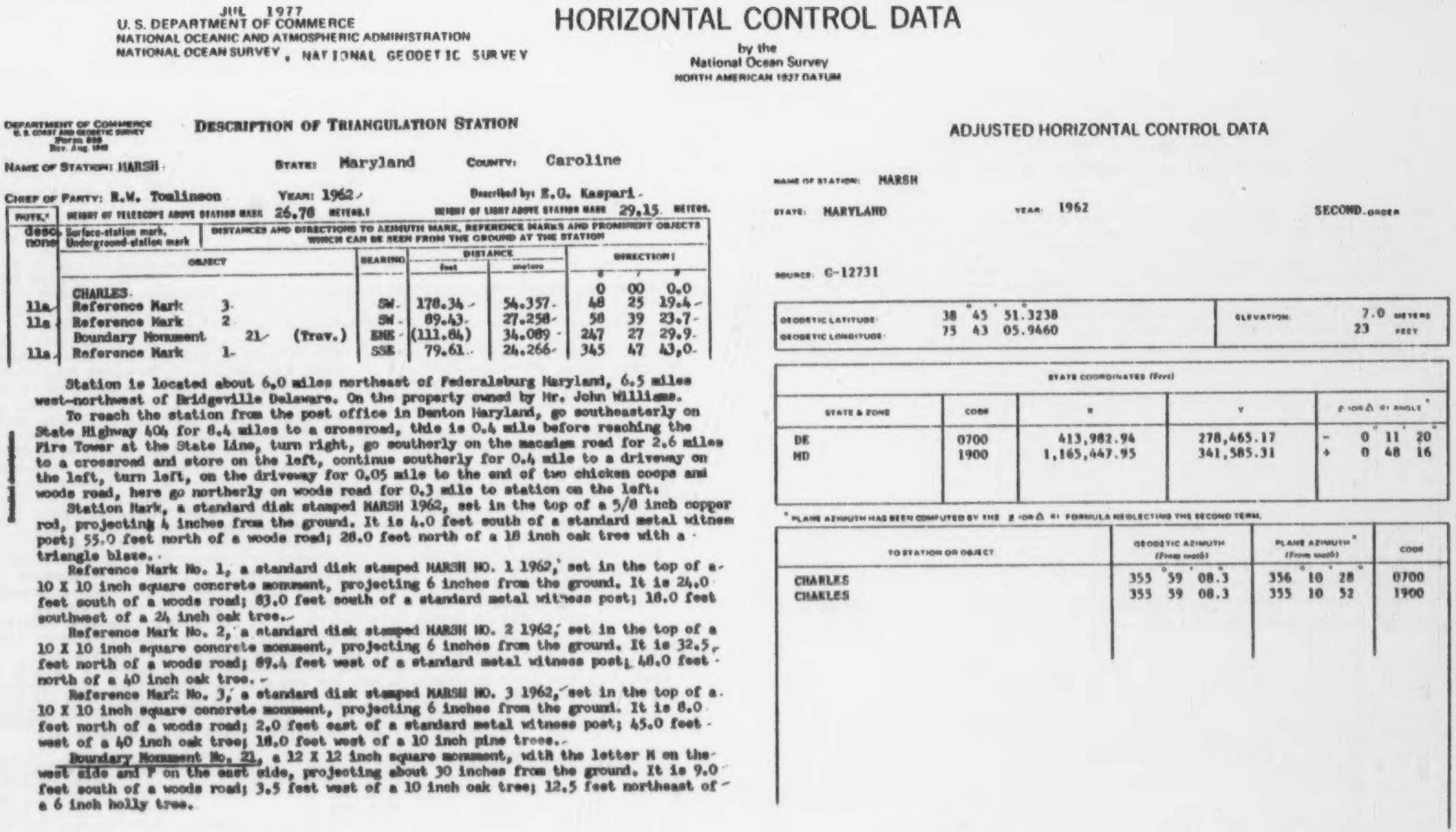
SOURCE: G-12731

GEODETIC LATITUDE:	38° 58′ 03.8050″	ELEVATION:	18.0	METERS
GEODETIC LONGITUDE:	75 44 03.4226		59	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (or Δ α) ANGLE*
DE	0700	409,688.02	352,584.69	− 0° 11′ 59″
MD	1900	1,159,868.54	415,615.24	+ 0 47 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
SHORT	175° 30′ 55.7″	175° 42′ 55″	0700
SHORT	175 30 55.7	174 43 16	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MARSH STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: E.G. Kaspari

HEIGHT OF TELESCOPE ABOVE STATION MARK 26.78 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 29.15 METERS.

NOTE*: desc. Surface-station mark, none Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	CHARLES				0	00	0.0
11a	Reference Mark 3	SW	178.34	54.357	48	25	19.4
11a	Reference Mark 2	SW	89.43	27.258	58	39	23.7
	Boundary Monument 21 (Trav.)	ENE	(111.84)	34.089	247	27	29.9
11a	Reference Mark 1	SSE	79.61	24.266	345	47	43,0

Station is located about 6.0 miles northeast of Federalsburg Maryland, 6.5 miles west-northwest of Bridgeville Delaware. On the property owned by Mr. John Williams.

To reach the station from the post office in Denton Maryland, go southeasterly on State Highway 404 for 8.4 miles to a crossroad, this is 0.4 mile before reaching the Fire Tower at the State Line, turn right, go southerly on the macadam road for 2.6 miles to a crossroad and store on the left, continue southerly for 0.4 mile to a driveway on the left, turn left, on the driveway for 0.05 mile to the end of two chicken coops and woods road, here go northerly on woods road for 0.3 mile to station on the left.

Station Mark, a standard disk stamped MARSH 1962, set in the top of a 5/8 inch copper rod, projecting 4 inches from the ground. It is 4.0 feet south of a standard metal witness post; 55.0 feet north of a woods road; 28.0 feet north of a 18 inch oak tree with a triangle blaze.

Reference Mark No. 1, a standard disk stamped MARSH NO. 1 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 6 inches from the ground. It is 24.0 feet south of a woods road; 83.0 feet south of a standard metal witness post; 18.0 feet southwest of a 24 inch oak tree.

Reference Mark No. 2, a standard disk stamped MARSH NO. 2 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 6 inches from the ground. It is 32.5 feet north of a woods road; 89.4 feet west of a standard metal witness post; 48.0 feet north of a 40 inch oak tree.

Reference Mark No. 3, a standard disk stamped MARSH NO. 3 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 6 inches from the ground. It is 8.0 feet north of a woods road; 2.0 feet east of a standard metal witness post; 45.0 feet west of a 40 inch oak tree; 18.0 feet west of a 10 inch pine trees.

Boundary Monument No. 21, a 12 X 12 inch square monument, with the letter M on the west side and P on the east side, projecting about 30 inches from the ground. It is 9.0 feet south of a woods road; 3.5 feet west of a 10 inch oak tree; 12.5 feet northeast of a 6 inch holly tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MARSH

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731

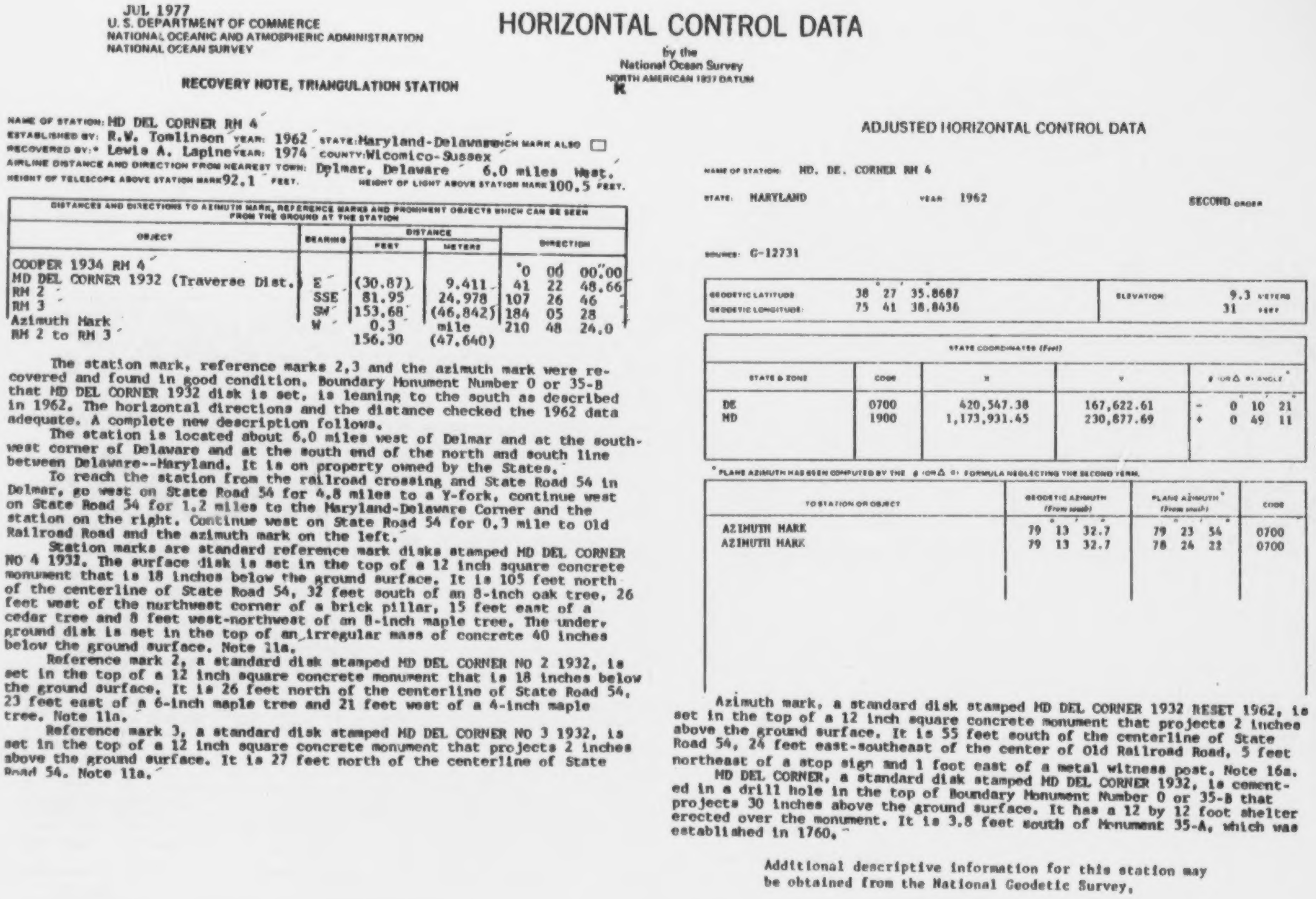
GEODETIC LATITUDE:	38° 45′ 51.3238″	ELEVATION:	7.0 METERS
GEODETIC LONGITUDE:	75 43 05.9460		23 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	413,982.94	278,465.17	− 0° 11′ 20″
MD	1900	1,165,447.95	341,585.31	+ 0 48 16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
CHARLES	355° 59′ 08.3″	356° 10′ 28″	0700
CHARLES	355 59 08.3	355 10 52	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM
K

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: MD DEL CORNER RM 4
ESTABLISHED BY: R.W. Tomlinson YEAR: 1962 STATE: Maryland-Delaware WHICH MARK ALSO ☐
RECOVERED BY:* Lewis A. Lapine YEAR: 1974 COUNTY: Wicomico-Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: Delmar, Delaware 6.0 miles West.
HEIGHT OF TELESCOPE ABOVE STATION MARK 92.1 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 100.5 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
COOPER 1934 RM 4				0° 00′ 00″.00
MD DEL CORNER 1932 (Traverse Dist.)	E	(30.87)	9.411	41 22 48.66
RM 2	SSE	81.95	24.978	107 26 46
RM 3	SW	153.68	(46.842)	184 05 28
Azimuth Mark	W	0.3	mile	210 48 24.0
RM 2 to RM 3		156.30	(47.640)	

The station mark, reference marks 2,3 and the azimuth mark were recovered and found in good condition. Boundary Monument Number 0 or 35-B that MD DEL CORNER 1932 disk is set, is leaning to the south as described in 1962. The horizontal directions and the distance checked the 1962 data adequate. A complete new description follows.

The station is located about 6.0 miles west of Delmar and at the southwest corner of Delaware and at the south end of the north and south line between Delaware--Maryland. It is on property owned by the States.

To reach the station from the railroad crossing and State Road 54 in Delmar, go west on State Road 54 for 4.8 miles to a Y-fork, continue west on State Road 54 for 1.2 miles to the Maryland-Delaware Corner and the station on the right. Continue west on State Road 54 for 0.3 mile to Old Railroad Road and the azimuth mark on the left.

Station marks are standard reference mark disks stamped MD DEL CORNER NO 4 1932. The surface disk is set in the top of a 12 inch square concrete monument that is 18 inches below the ground surface. It is 105 feet north of the centerline of State Road 54, 32 feet south of an 8-inch oak tree, 26 feet west of the northwest corner of a brick pillar, 15 feet east of a cedar tree and 8 feet west-northwest of an 8-inch maple tree. The underground disk is set in the top of an irregular mass of concrete 40 inches below the ground surface. Note 11a.

Reference mark 2, a standard disk stamped MD DEL CORNER NO 2 1932, is set in the top of a 12 inch square concrete monument that is 18 inches below the ground surface. It is 26 feet north of the centerline of State Road 54, 23 feet east of a 6-inch maple tree and 21 feet west of a 4-inch maple tree. Note 11a.

Reference mark 3, a standard disk stamped MD DEL CORNER NO 3 1932, is set in the top of a 12 inch square concrete monument that projects 2 inches above the ground surface. It is 27 feet north of the centerline of State Road 54. Note 11a.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MD. DE. CORNER RM 4
STATE: MARYLAND YEAR 1962 SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE	38° 27′ 35″.8687	ELEVATION	9.3 METERS
GEODETIC LONGITUDE:	75 41 38.8436		31 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	420,547.38	167,622.61	− 0° 10′ 21″
MD	1900	1,173,931.45	230,877.69	+ 0 49 11

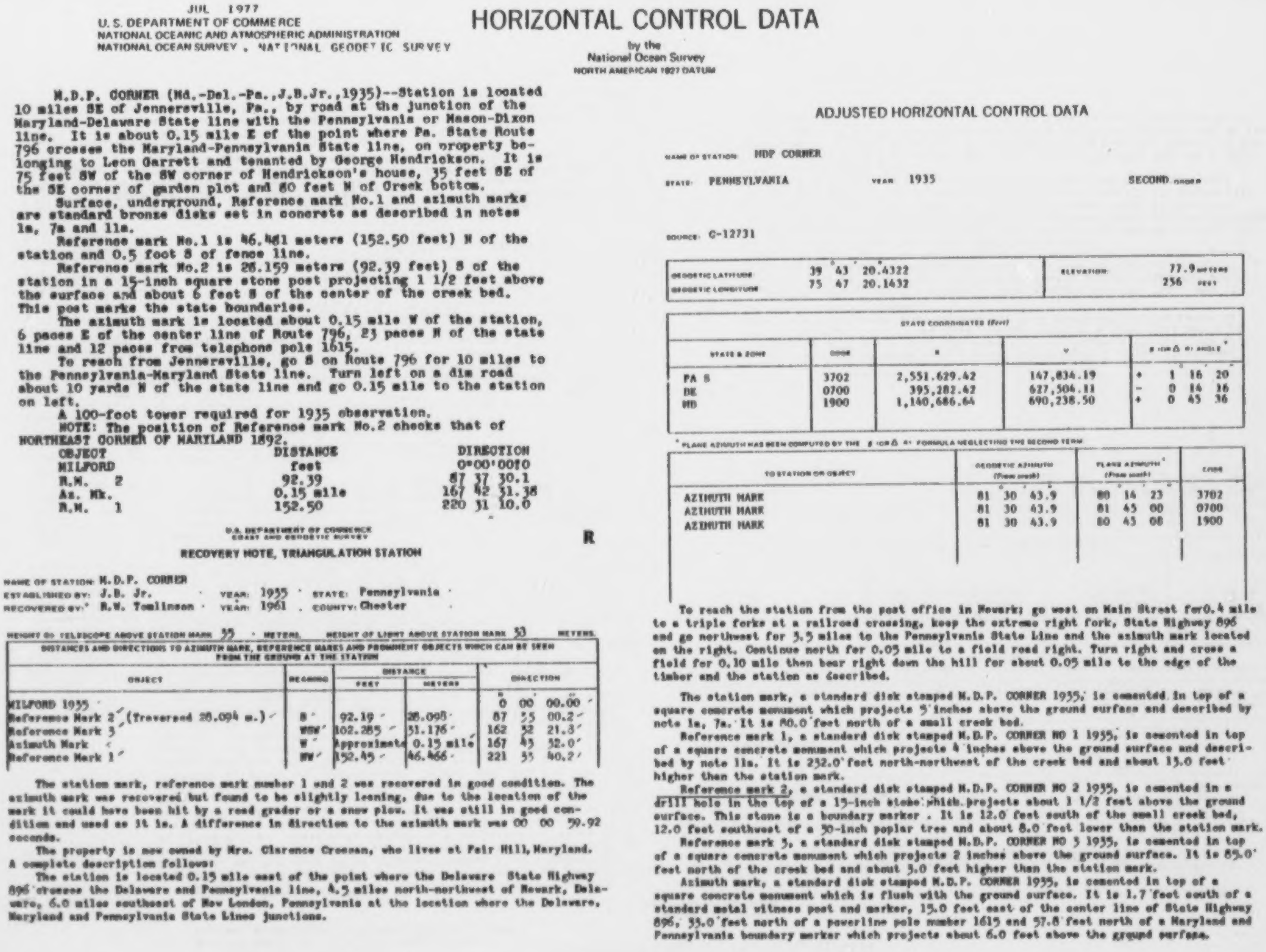
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	79° 13′ 32″.7	79° 23′ 54″	0700
AZIMUTH MARK	79 13 32.7	78 24 22	0700

Azimuth mark, a standard disk stamped MD DEL CORNER 1932 RESET 1962, is set in the top of a 12 inch square concrete monument that projects 2 inches above the ground surface. It is 55 feet south of the centerline of State Road 54, 24 feet east-southeast of the center of Old Railroad Road, 5 feet northeast of a stop sign and 1 foot east of a metal witness post. Note 16a.

MD DEL CORNER, a standard disk stamped MD DEL CORNER 1932, is cemented in a drill hole in the top of Boundary Monument Number 0 or 35-B that projects 30 inches above the ground surface. It has a 12 by 12 foot shelter erected over the monument. It is 3.8 feet south of Monument 35-A, which was established in 1760.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.



JUL 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
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M.D.P. CORNER (Md.-Del.-Pa.,J.B.Jr.,1935)--Station is located 10 miles SE of Jennersville, Pa., by road at the junction of the Maryland-Delaware State line with the Pennsylvania or Mason-Dixon line. It is about 0.15 mile E of the point where Pa. State Route 796 crosses the Maryland-Pennsylvania State line, on property belonging to Leon Garrett and tenanted by George Hendrickson. It is 75 feet SW of the SW corner of Hendrickson's house, 35 feet SE of the SE corner of garden plot and 80 feet N of Creek bottom.

Surface, underground, Reference mark No.1 and azimuth marks are standard bronze disks set in concrete as described in notes 1a, 7a and 11a.

Reference mark No.1 is 46.481 meters (152.50 feet) N of the station and 0.5 foot S of fence line.

Reference mark No.2 is 28.159 meters (92.39 feet) S of the station in a 15-inch square stone post projecting 1 1/2 feet above the surface and about 6 feet S of the center of the creek bed. This post marks the state boundaries.

The azimuth mark is located about 0.15 mile W of the station, 6 paces E of the center line of Route 796, 23 paces N of the state line and 12 paces from telephone pole 1615.

To reach from Jennersville, go S on Route 796 for 10 miles to the Pennsylvania-Maryland State line. Turn left on a dim road about 10 yards N of the state line and go 0.15 mile to the station on left.

A 100-foot tower required for 1935 observation.

NOTE: The position of Reference mark No.2 checks that of NORTHEAST CORNER OF MARYLAND 1892.

OBJECT	DISTANCE	DIRECTION
MILFORD	feet	0°00'00"0
R.M. 2	92.39	87 37 30.1
Az. Mk.	0.15 mile	167 42 31.38
R.M. 1	152.50	220 31 10.0

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: M.D.P. CORNER
ESTABLISHED BY: J.B. Jr. YEAR: 1935 STATE: Pennsylvania
RECOVERED BY: R.W. Tomlinson YEAR: 1961 COUNTY: Chester

HEIGHT OF TELESCOPE ABOVE STATION MARK 35 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
MILFORD 1935				0 00 00.00
Reference Mark 2 (Traversed 28.094 m.)	S	92.19	28.098	87 55 00.2
Reference Mark 3	WSW	102.285	31.176	162 32 21.3
Azimuth Mark	W	Approximate	0.15 mile	167 43 32.0
Reference Mark 1	NW	152.45	46.466	221 55 40.2

The station mark, reference mark number 1 and 2 was recovered in good condition. The azimuth mark was recovered but found to be slightly leaning, due to the location of the mark it could have been hit by a road grader or a snow plow. It was still in good condition and used as it is. A difference in direction to the azimuth mark was 00 00 59.92 seconds.

The property is now owned by Mrs. Clarence Crossan, who lives at Fair Hill, Maryland. A complete description follows:

The station is located 0.15 mile east of the point where the Delaware State Highway 896 crosses the Delaware and Pennsylvania line, 4.5 miles north-northwest of Newark, Delaware, 6.0 miles southeast of New London, Pennsylvania at the location where the Delaware, Maryland and Pennsylvania State Lines junctions.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: MDP CORNER
STATE: PENNSYLVANIA YEAR 1935 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE	39° 43' 20".4322	ELEVATION:	77.9 METERS
GEODETIC LONGITUDE	75 47 20.1432		256 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
PA S	3702	2,551,629.42	147,834.19	+ 1° 16' 20"
DE	0700	395,282.42	627,504.11	− 0 14 16
MD	1900	1,140,686.64	690,238.50	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	81° 30' 43".9	80° 14' 23"	3702
AZIMUTH MARK	81 30 43.9	81 45 00	0700
AZIMUTH MARK	81 30 43.9	80 45 08	1900

To reach the station from the post office in Newark; go west on Main Street for 0.4 mile to a triple forks at a railroad crossing, keep the extreme right fork, State Highway 896 and go northwest for 3.5 miles to the Pennsylvania State Line and the azimuth mark located on the right. Continue north for 0.05 mile to a field road right. Turn right and cross a field for 0.10 mile then bear right down the hill for about 0.05 mile to the edge of the timber and the station as described.

The station mark, a standard disk stamped M.D.P. CORNER 1935, is cemented in top of a square concrete monument which projects 5 inches above the ground surface and described by note 1a, 7a. It is 80.0 feet north of a small creek bed.

Reference mark 1, a standard disk stamped M.D.P. CORNER NO 1 1935, is cemented in top of a square concrete monument which projects 4 inches above the ground surface and described by note 11a. It is 232.0 feet north-northwest of the creek bed and about 13.0 feet higher than the station mark.

Reference mark 2, a standard disk stamped M.D.P. CORNER NO 2 1935, is cemented in a drill hole in the top of a 15-inch stone which projects about 1 1/2 feet above the ground surface. This stone is a boundary marker . It is 12.0 feet south of the small creek bed, 12.0 feet southwest of a 30-inch poplar tree and about 8.0 feet lower than the station mark.

Reference mark 3, a standard disk stamped M.D.P. CORNER NO 3 1935, is cemented in top of a square concrete monument which projects 2 inches above the ground surface. It is 85.0 feet north of the creek bed and about 3.0 feet higher than the station mark.

Azimuth mark, a standard disk stamped M.D.P. CORNER 1935, is cemented in top of a square concrete monument which is flush with the ground surface. It is 1.7 feet south of a standard metal witness post and marker, 15.0 feet east of the center line of State Highway 896, 33.0 feet north of a powerline pole number 1615 and 57.8 feet north of a Maryland and Pennsylvania boundary marker which projects about 6.0 feet above the ground surface.

JUL 1977
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NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

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National Ocean Survey
NORTH AMERICAN 1927 DATUM

MARYDEL (Queen Anne Kent, Md.,-Del.,C.D.M.,1932)--Located on Maryland-Delaware Boundary line about 1.2 miles NE of Templeville, Maryland, and 0.1 mile SE of highway leading from Templeville, Maryland, to Hartly, Delaware, on property owned and occupied by Mr. Fred Maske. Station is marked by a regulation station disk set in the top of sand stone boundary monument 12 inches square and about 2 1/2 or 3 feet above ground. When originally visited, this monument was very unsteady, but owner stated that a survey which had been made showed that stone was in its correct position. Position of stone was held fixed. It was then dug out and underground mark was set. The monument was then set in its original position and reinforced by concrete placed around base. It is now very steady. On one face of stone, there is an "M", and on opposite face is a "P". At one time this part of Delaware was part of Pennsylvania. Station is in open field just SW of Mr. Maske's house 26.2 meters SW of SW corner of house, 18.8 meters WSW of maple tree in front of house.

Underground and reference marks are standard bronze disks set in concrete as described in notes 7a, and 11a.

Reference mark No.1 is SE of station at NW corner of chicken house.

Reference mark No.2 is in fence line on W side of field, SW of station, 6.7 meters S of 12-inch cedar tree in fence line.

Reference mark No.3 is WSW of station, 6 meters SE of center line of highway, at NE end of entrance to lane, 1 meter NE of 8-inch leaning cedar tree which is the NE gatepost of gate to lane.

From Templeville, Maryland, take paved road to Hartly 1.2 miles NE to State Line, then right or SE 0.1 mile to Mr. Maske's house and station.

OBJECT	DISTANCE	DIRECTION
HARTLEY (1898)		0°00'00"0
R.M.No.1	142.20 feet	92 17 08
R.M.No.2	332.9 feet	191 34 34.0
R.M.No.3 approx.	1/4 mile	199 03 24.4

Height of signal above station mark - 34 meters.
Height of telescope above station mark - 31 meters.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MARYDEL
ESTABLISHED BY: C.D.M. YEAR: 1932 STATE: Maryland-Delaware
RECOVERED BY:* G.L. Novak YEAR: 1974 COUNTY: Md. Queen Annes
Del. Kent
DENON
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN:
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
RM 2 (Ranger 111 distance)	SW			0° 00' 00".00
RM 6	ENE	73.24	22.324	152 27 29

The station mark and reference mark 2 were recovered and found in good condition. Reference marks 1, 3, 4 and 5 were not found. They were reported destroyed by Maryland Highway Department. A new reference mark 6 was established at this date. There is no place to set a azimuth mark except within 0.15 mile and reference mark 2 is nearly that distance.

A complete new description of the station follows.

The station is located on the Maryland-Delaware line about 10 miles west of Dover Delaware, 1 1/2 miles northeast of Templeville and just south of State Highway 11. The property owner's name is unknown.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MARYDEL BDRY MON 47 DEL MD
STATE DELAWARE - MARYLAND YEAR 1932 FIRST ORDER
SOURCE G-12731

	°	'	"		
GEODETIC LATITUDE	39	08	30.3858	ELEVATION	20.31 METERS
GEODETIC LONGITUDE	75	44	52.7609	NO CHECK	66.6 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ ANGLE*
DE	0700	406,022.05	415,990.98	- 0 12 33
MD	1900	1,155,102.80	478,945.20	+ 0 47 09

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ ANGLE FORMULA NEGLECTING THE SECOND TERM.

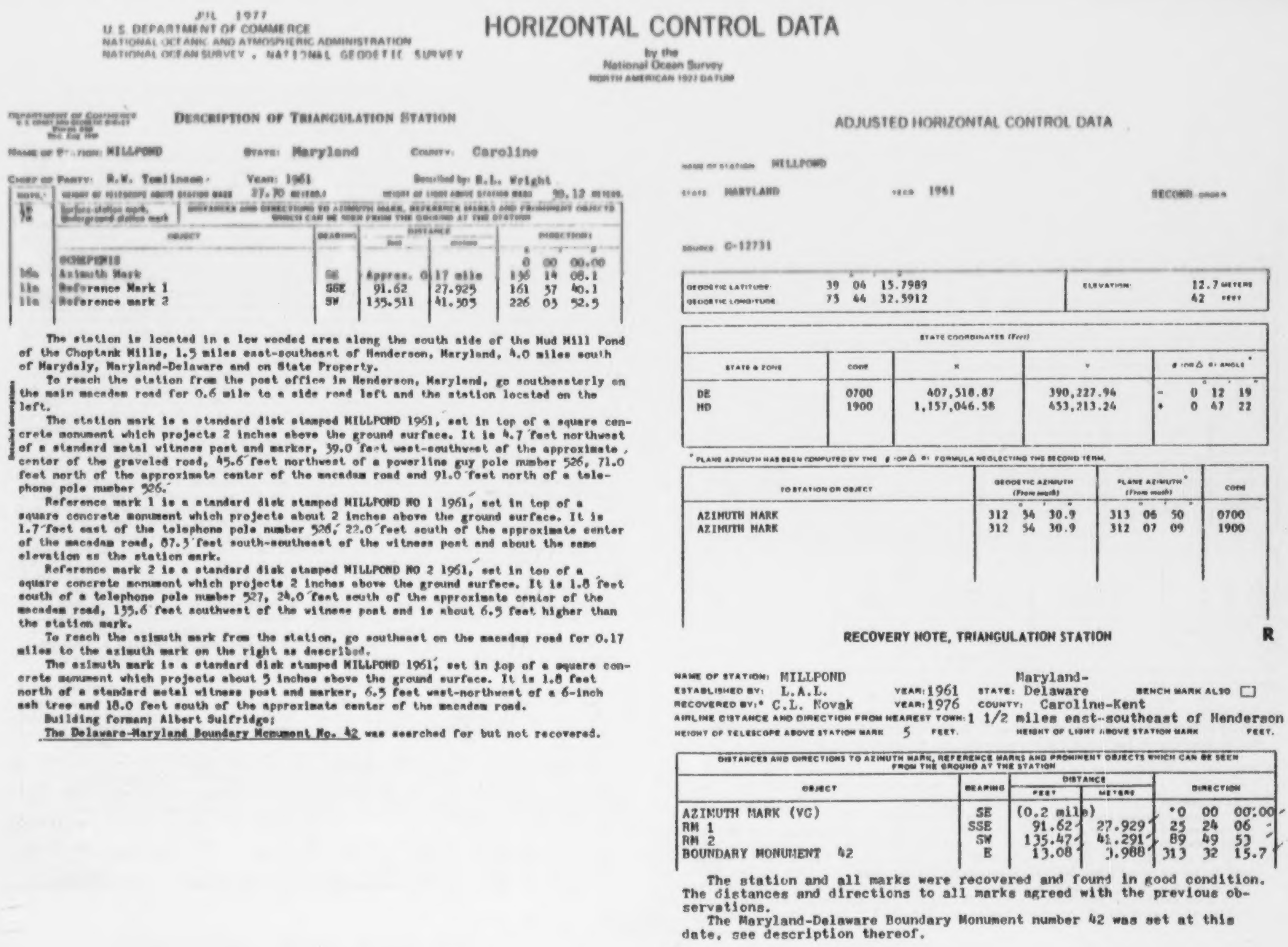
TO STATION OR OBJECT	GEODETIC AZIMUTH (from south)	PLANE AZIMUTH* (from south)	CODE
AZ MK RM 3	76 11 36.6	76 24 07	0700
AZ MK RM 3	76 11 36.6	75 24 26	1900

To reach the station from a point where State Highway 11 crosses the Maryland-Delaware line, go west on State Highway 15 for 0.05 mile to a side road left. Turn left and go south on a farm road for 0.15 mile to a farm house and the station just northwest of the house and near a outside fireplace.

The station mark is a standard disk stamped MARYDEL 1932, set in the top of a 12-inch square Maryland-Delaware boundry monument which projects 10-inches. It is16 feet north of the chimney of the fire place, 35 feet north of the northwest corner of the farm house and 65 feet west of the farm road. (NOTE described)

Reference mark 2 is a standard disk stamped MARYDEL NO 2 1932, set in the top of a 12-inch square concrete monument which projects 6-inches. It is in a fence line across the open cultivated field to the west of the station. It is 3 feet west of the west edge of the cultivated field, 6 feet east of a small ditch and 22 feet south of a 14-inch cedar tree. (NOTE 11a)

Reference mark 6 is a standard disk stamped MARYDEL 1932 NO 6 1973, cemented in a drill hole in a large concrete slab in the center of the farm lane. It is 63 feet northeast of the fireplace chimney and 96 feet northeast of the northwest corner of the farm house. (NOTE described)



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Department of Commerce
U.S. Coast and Geodetic Survey

DESCRIPTION OF TRIANGULATION STATION

Name of Station: MILLPOND   State: Maryland   County: Caroline

Chief of Party: R.W. Tomlinson   Year: 1961   Described by: R.L. Wright

Height of telescope above station mark 27.70 meters   Height of light above station mark 30.12 meters

Surface station mark, Underground station mark

Note	Object	Bearing	Distance (feet)	Distance (meters)	Direction
	[illegible]				0 00 00.00
16a	Azimuth Mark	SE	Approx. 0.17 mile		136 14 08.1
11a	Reference Mark 1	SSE	91.62	27.925	161 37 40.1
11a	Reference mark 2	SW	135.511	41.305	226 03 52.5

The station is located in a low wooded area along the south side of the Mud Mill Pond of the Choptank Mills, 1.5 miles east-southeast of Henderson, Maryland, 4.0 miles south of Marydaly, Maryland-Delaware and on State Property.

To reach the station from the post office in Henderson, Maryland, go southeasterly on the main macadam road for 0.6 mile to a side road left and the station located on the left.

The station mark is a standard disk stamped MILLPOND 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 4.7 feet northwest of a standard metal witness post and marker, 39.0 feet west-southwest of the approximate center of the graveled road, 45.6 feet northwest of a powerline guy pole number 526, 71.0 feet north of the approximate center of the macadam road and 91.0 feet north of a telephone pole number 526.

Reference mark 1 is a standard disk stamped MILLPOND NO 1 1961, set in top of a square concrete monument which projects about 2 inches above the ground surface. It is 1.7 feet east of the telephone pole number 526, 22.0 feet south of the approximate center of the macadam road, 87.3 feet south-southeast of the witness post and about the same elevation as the station mark.

Reference mark 2 is a standard disk stamped MILLPOND NO 2 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.8 feet south of a telephone pole number 527, 24.0 feet south of the approximate center of the macadam road, 135.6 feet southwest of the witness post and is about 6.5 feet higher than the station mark.

To reach the azimuth mark from the station, go southeast on the macadam road for 0.17 miles to the azimuth mark on the right as described.

The azimuth mark is a standard disk stamped MILLPOND 1961, set in top of a square concrete monument which projects about 5 inches above the ground surface. It is 1.8 feet north of a standard metal witness post and marker, 6.5 feet west-northwest of a 6-inch ash tree and 18.0 feet south of the approximate center of the macadam road.

Building forman; Albert Sulfridge;

The Delaware-Maryland Boundary Monument No. 42 was searched for but not recovered.

ADJUSTED HORIZONTAL CONTROL DATA

Name of station MILLPOND

State MARYLAND   Year 1961   SECOND order

Source G-12731

	° ′ ″		
GEODETIC LATITUDE	39 06 15.7989	ELEVATION	12.7 METERS
GEODETIC LONGITUDE	75 44 32.5912		42 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	407,518.87	390,227.94	- 0 12 19
MD	1900	1,157,046.58	453,213.24	+ 0 47 22

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	312 54 30.9	313 06 50	0700
AZIMUTH MARK	312 54 30.9	312 07 09	1900

RECOVERY NOTE, TRIANGULATION STATION

R

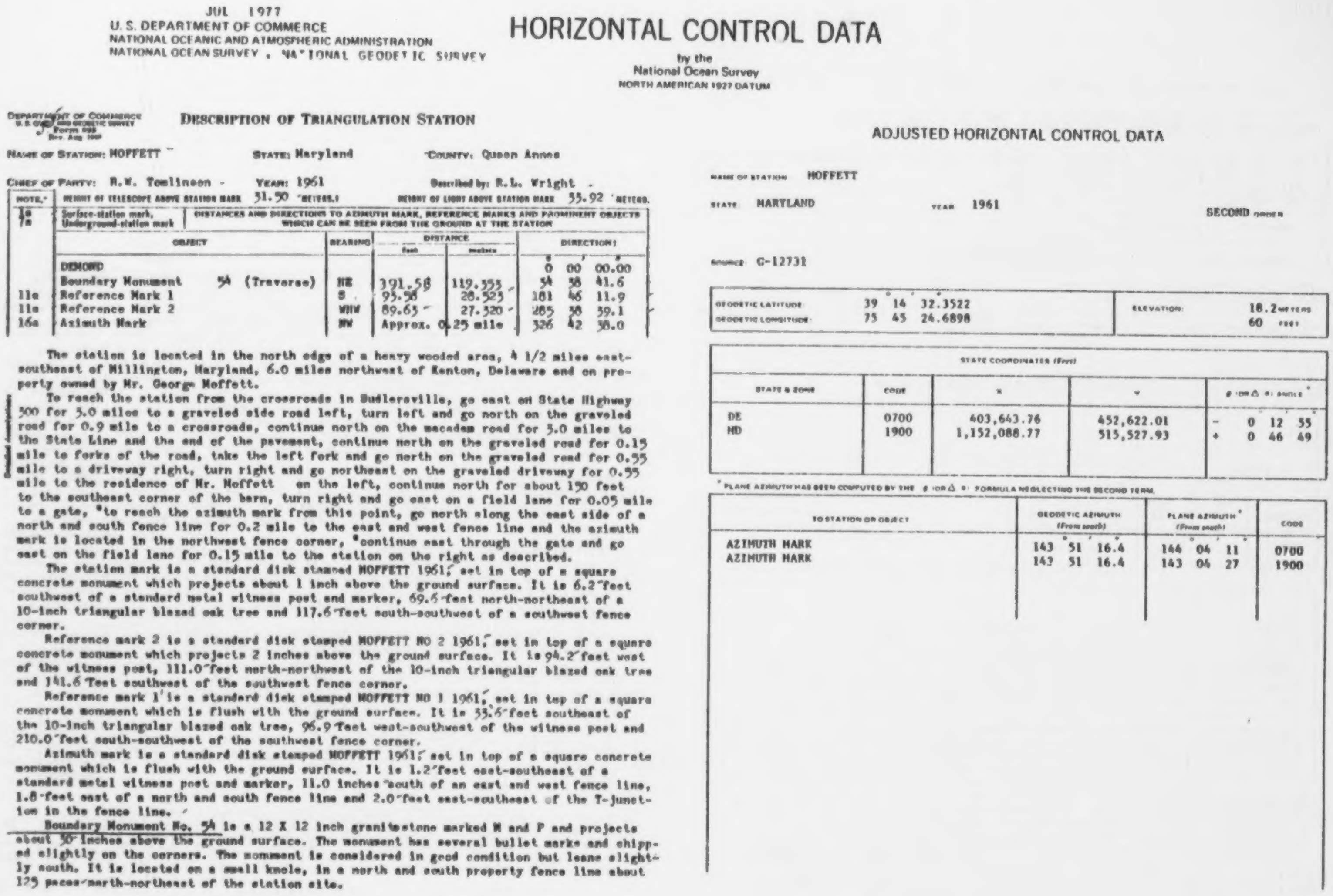
NAME OF STATION: MILLPOND   STATE: Maryland-Delaware
ESTABLISHED BY: L.A.L.   YEAR: 1961   BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak   YEAR: 1976   COUNTY: Caroline-Kent
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 1/2 miles east-southeast of Henderson
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.   HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK (VG)	SE	(0.2 mile)		0 00 00.00
RM 1	SSE	91.62	27.929	25 24 06
RM 2	SW	135.47	41.291	89 49 53
BOUNDARY MONUMENT 42	E	13.08	3.988	313 32 15.7

The station and all marks were recovered and found in good condition. The distances and directions to all marks agreed with the previous observations.

The Maryland-Delaware Boundary Monument number 42 was set at this date, see description thereof.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: MOFFETT STATE: Maryland COUNTY: Queen Annes

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1961 Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.50 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33.92 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
1a 7a	Surface-station mark, Underground-station mark — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	DEMOND				0	00	00.00
	Boundary Monument 54 (Traverse)	NE	391.58	119.353	54	38	41.6
11a	Reference Mark 1	S	93.58	28.523	181	46	11.9
11a	Reference Mark 2	WNW	89.63	27.320	285	38	39.1
16a	Azimuth Mark	NW	Approx. 0.25 mile		326	42	38.0

The station is located in the north edge of a heavy wooded area, 4 1/2 miles east-southeast of Millington, Maryland, 6.0 miles northwest of Kenton, Delaware and on property owned by Mr. George Moffett.

To reach the station from the crossroads in Sudlersville, go east on State Highway 300 for 3.0 miles to a graveled side road left, turn left and go north on the graveled road for 0.9 mile to a crossroads, continue north on the macadam road for 3.0 miles to the State Line and the end of the pavement, continue north on the graveled road for 0.15 mile to forks of the road, take the left fork and go north on the graveled road for 0.55 mile to a driveway right, turn right and go northeast on the graveled driveway for 0.55 mile to the residence of Mr. Moffett on the left, continue north for about 130 feet to the southeast corner of the barn, turn right and go east on a field lane for 0.05 mile to a gate, *to reach the azimuth mark from this point, go north along the east side of a north and south fence line for 0.2 mile to the east and west fence line and the azimuth mark is located in the northwest fence corner, *continue east through the gate and go east on the field lane for 0.15 mile to the station on the right as described.

The station mark is a standard disk stamped MOFFETT 1961, set in top of a square concrete monument which projects about 1 inch above the ground surface. It is 6.2 feet southwest of a standard metal witness post and marker, 69.6 feet north-northeast of a 10-inch triangular blazed oak tree and 117.6 feet south-southwest of a southwest fence corner.

Reference mark 2 is a standard disk stamped MOFFETT NO 2 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 94.2 feet west of the witness post, 111.0 feet north-northwest of the 10-inch triangular blazed oak tree and 141.6 feet southwest of the southwest fence corner.

Reference mark 1 is a standard disk stamped MOFFETT NO 1 1961, set in top of a square concrete monument which is flush with the ground surface. It is 33.6 feet southeast of the 10-inch triangular blazed oak tree, 96.9 feet west-southwest of the witness post and 210.0 feet south-southwest of the southwest fence corner.

Azimuth mark is a standard disk stamped MOFFETT 1961, set in top of a square concrete monument which is flush with the ground surface. It is 1.2 feet east-southeast of a standard metal witness post and marker, 11.0 inches south of an east and west fence line, 1.8 feet east of a north and south fence line and 2.0 feet east-southeast of the T-junction in the fence line.

Boundary Monument No. 54 is a 12 X 12 inch granitestone marked M and P and projects about 30 inches above the ground surface. The monument has several bullet marks and chipped slightly on the corners. The monument is considered in good condition but leans slightly south. It is located on a small knole, in a north and south property fence line about 125 paces north-northeast of the station site.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION MOFFETT

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

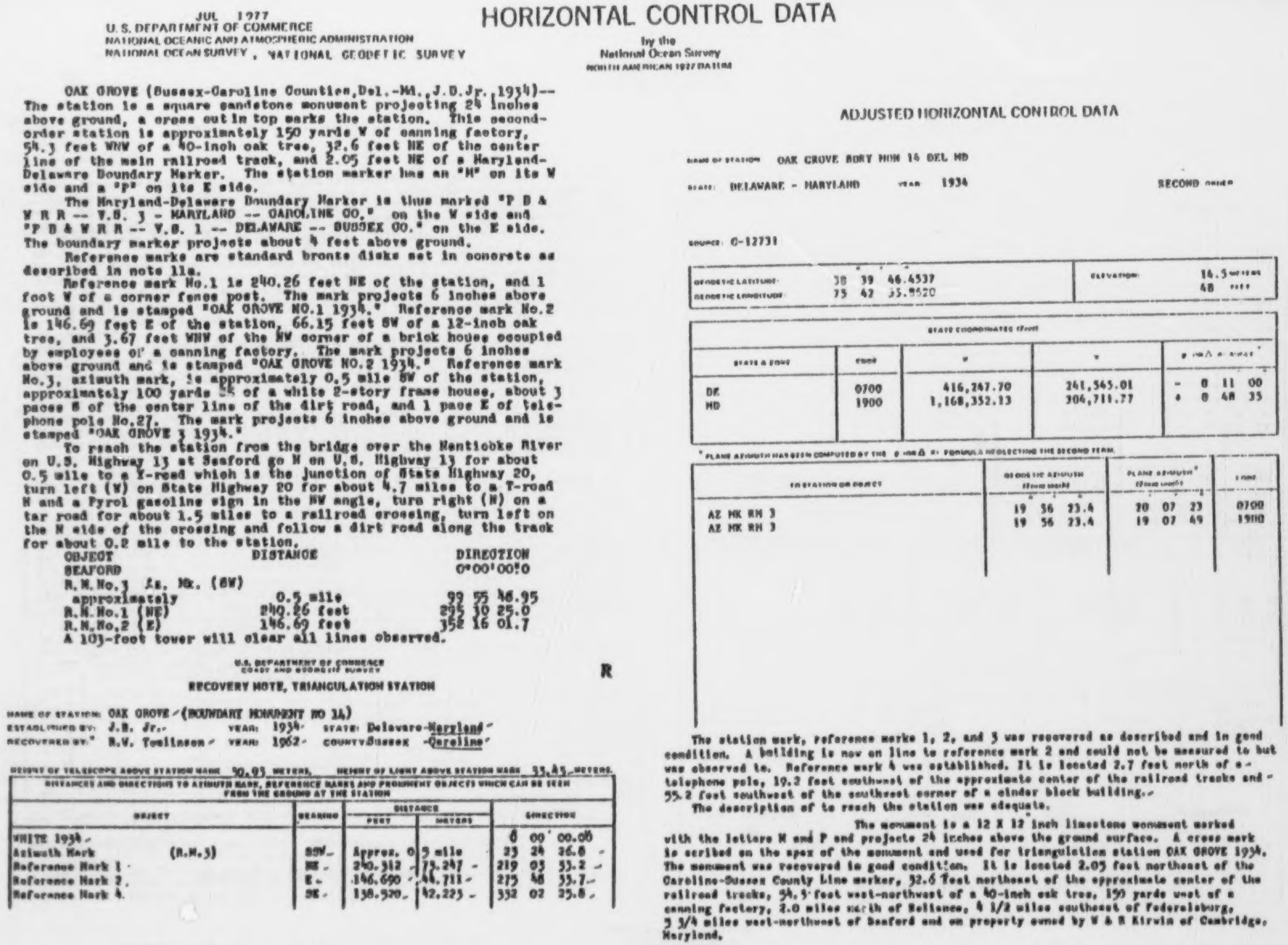
	°	′	″		
GEODETIC LATITUDE	39	14	32.3522	ELEVATION:	18.2 METERS
GEODETIC LONGITUDE	75	45	24.6898		60 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*		°	′	″
DE	0700	403,643.76	452,622.01	−		0	12	55
MD	1900	1,152,088.77	515,527.93	+		0	46	49

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
AZIMUTH MARK	143	51	16.4	144	04	11	0700
AZIMUTH MARK	143	51	16.4	143	04	27	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

OAK GROVE (Sussex-Caroline Counties, Del.-Md., J.D.Jr., 1934)--The station is a square sandstone monument projecting 24 inches above ground, a cross cut in top marks the station. This second-order station is approximately 150 yards W of canning factory, 54.3 feet WNW of a 40-inch oak tree, 32.6 feet NE of the center line of the main railroad track, and 2.05 feet NE of a Maryland-Delaware Boundary Marker. The station marker has an "M" on its W side and a "P" on its E side.

The Maryland-Delaware Boundary Marker is thus marked "P B & W R R -- V.S. 3 - MARYLAND -- CAROLINE CO." on the W side and "P B & W R R -- V.S. 1 -- DELAWARE -- SUSSEX CO." on the E side. The boundary marker projects about 4 feet above ground.

Reference marks are standard bronze disks set in concrete as described in note 11a.

Reference mark No.1 is 240.26 feet NE of the station, and 1 foot W of a corner fence post. The mark projects 6 inches above ground and is stamped "OAK GROVE NO.1 1934." Reference mark No.2 is 146.69 feet E of the station, 66.15 feet SW of a 12-inch oak tree, and 3.67 feet WNW of the NW corner of a brick house occupied by employees of a canning factory. The mark projects 6 inches above ground and is stamped "OAK GROVE NO.2 1934." Reference mark No.3, azimuth mark, is approximately 0.5 mile SW of the station, approximately 100 yards SE of a white 2-story frame house, about 3 paces S of the center line of the dirt road, and 1 pace E of telephone pole No.27. The mark projects 6 inches above ground and is stamped "OAK GROVE 3 1934."

To reach the station from the bridge over the Nanticoke River on U.S. Highway 13 at Seaford go N on U.S. Highway 13 for about 0.5 mile to a Y-road which is the junction of State Highway 20, turn left (W) on State Highway 20 for about 4.7 miles to a T-road N and a Pyrol gasoline sign in the NW angle, turn right (N) on a tar road for about 1.5 miles to a railroad crossing, turn left on the N side of the crossing and follow a dirt road along the track for about 0.2 mile to the station.

OBJECT	DISTANCE	DIRECTION
SEAFORD		0°00'00".0
R.M.No.3 Az. Mk. (SW) approximately	0.5 mile	99 55 46.95
R.M.No.1 (NE)	240.26 feet	295 30 25.0
R.M.No.2 (E)	146.69 feet	352 16 01.7

A 103-foot tower will clear all lines observed.

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: OAK GROVE (BOUNDARY MONUMENT NO 14)
ESTABLISHED BY: J.D. Jr. YEAR: 1934 STATE: Delaware-Maryland
RECOVERED BY: R.V. Tomlinson YEAR: 1962 COUNTY: Sussex -Caroline

HEIGHT OF TELESCOPE ABOVE STATION MARK 30.93 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33.43 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
WHITE 1934				0 00 00.00
Azimuth Mark (R.M.3)	SSW	Approx. 0.5 mile		23 24 26.8
Reference Mark 1	NE	240.312	73.247	219 03 53.2
Reference Mark 2	E	146.690	44.711	275 48 53.7
Reference Mark 4	SE	138.520	42.223	332 02 25.8

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION OAK GROVE BDRY MON 14 DEL MD
STATE: DELAWARE - MARYLAND YEAR 1934 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38 39 46.4537	ELEVATION:	16.5 METERS
GEODETIC LONGITUDE:	75 42 35.8520		48 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ = Δλ sin φ + [illegible]*
DE	0700	416,247.70	241,545.01	- 0 11 00
MD	1900	1,168,352.13	304,711.77	+ 0 48 35

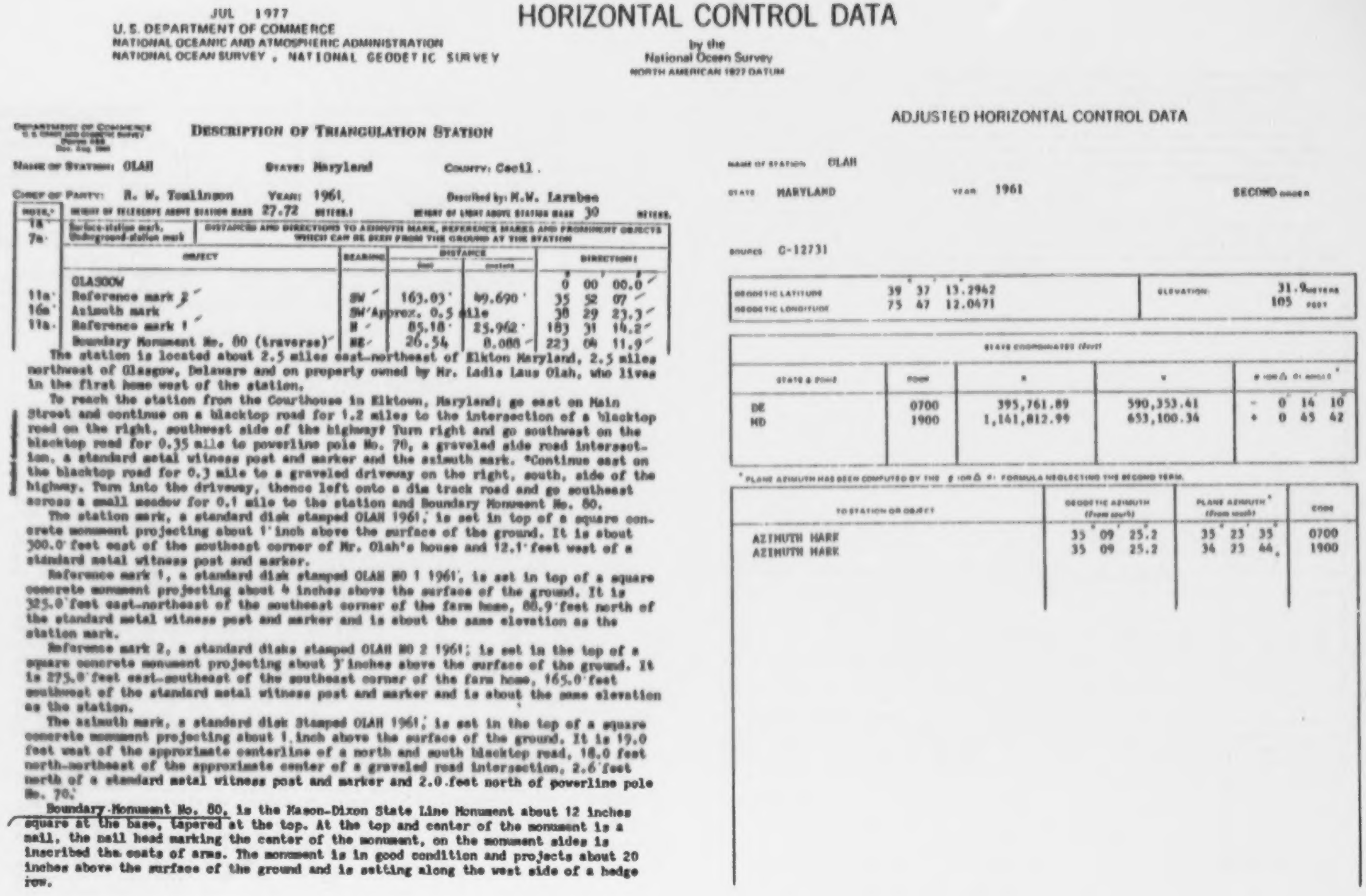
* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = Δλ sin φ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	ZONE
AZ MK RM 3	19 56 23.4	20 07 23	0700
AZ MK RM 3	19 56 23.4	19 07 49	1900

The station mark, reference marks 1, 2, and 3 was recovered as described and in good condition. A building is now on line to reference mark 2 and could not be measured to but was observed to. Reference mark 4 was established. It is located 2.7 feet north of a telephone pole, 19.2 feet southwest of the approximate center of the railroad tracks and 55.2 feet southwest of the southwest corner of a cinder block building.

The description of to reach the station was adequate.

The monument is a 12 X 12 inch limestone monument marked with the letters M and P and projects 24 inches above the ground surface. A cross mark is scribed on the apex of the monument and used for triangulation station OAK GROVE 1934. The monument was recovered in good condition. It is located 2.05 feet northeast of the Caroline-Sussex County Line marker, 32.6 feet northeast of the approximate center of the railroad tracks, 54.5 feet west-northwest of a 40-inch oak tree, 150 yards west of a canning factory, 2.0 miles north of Reliance, 4 1/2 miles southeast of Federalsburg, 5 3/4 miles west-northwest of Seaford and on property owned by W & R Kirwin of Cambridge, Maryland.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: OLAH STATE: Maryland COUNTY: Cecil.

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: H.W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.72 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

NOTE	OBJECT	BEARING	DISTANCE Feet	DISTANCE Meters	DIRECTION
1a	Surface-station mark,				
7a	Underground-station mark				
	GLASGOW				0° 00′ 00.0″
11a	Reference mark 2	SW	163.03	49.690	35 52 07
16a	Azimuth mark	SW Approx. 0.5 mile			38 29 23.3
11a	Reference mark 1	N	85.18	25.962	183 31 14.2
	Boundary Monument No. 80 (traverse)	NE	26.54	8.088	223 04 11.9

The station is located about 2.5 miles east-northeast of Elkton Maryland, 2.5 miles northwest of Glasgow, Delaware and on property owned by Mr. Ladis Laus Olah, who lives in the first home west of the station.

To reach the station from the Courthouse in Elktown, Maryland; go east on Main Street and continue on a blacktop road for 1.2 miles to the intersection of a blacktop road on the right, southwest side of the highway? Turn right and go southwest on the blacktop road for 0.35 mile to powerline pole No. 70, a graveled side road intersection, a standard metal witness post and marker and the azimuth mark. "Continue east on the blacktop road for 0.3 mile to a graveled driveway on the right, south, side of the highway. Turn into the driveway, thence left onto a dim track road and go southeast across a small meadow for 0.1 mile to the station and Boundary Monument No. 80.

The station mark, a standard disk stamped OLAH 1961, is set in top of a square concrete monument projecting about 1 inch above the surface of the ground. It is about 300.0 feet east of the southeast corner of Mr. Olah's house and 12.1 feet west of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped OLAH NO 1 1961, is set in top of a square concrete monument projecting about 4 inches above the surface of the ground. It is 325.0 feet east-northeast of the southeast corner of the farm home, 88.9 feet north of the standard metal witness post and marker and is about the same elevation as the station mark.

Reference mark 2, a standard disks stamped OLAH NO 2 1961; is set in the top of a square concrete monument projecting about 3 inches above the surface of the ground. It is 275.0 feet east-southeast of the southeast corner of the farm home, 165.0 feet southwest of the standard metal witness post and marker and is about the same elevation as the station.

The azimuth mark, a standard disk Stamped OLAH 1961, is set in the top of a square concrete monument projecting about 1 inch above the surface of the ground. It is 19.0 feet west of the approximate centerline of a north and south blacktop road, 18.0 feet north-northeast of the approximate center of a graveled road intersection, 2.6 feet north of a standard metal witness post and marker and 2.0 feet north of powerline pole No. 70.

Boundary Monument No. 80, is the Mason-Dixon State Line Monument about 12 inches square at the base, tapered at the top. At the top and center of the monument is a nail, the nail head marking the center of the monument, on the monument sides is inscribed the coats of arms. The monument is in good condition and projects about 20 inches above the surface of the ground and is setting along the west side of a hedge row.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION OLAH

STATE MARYLAND YEAR 1961 SECOND ORDER

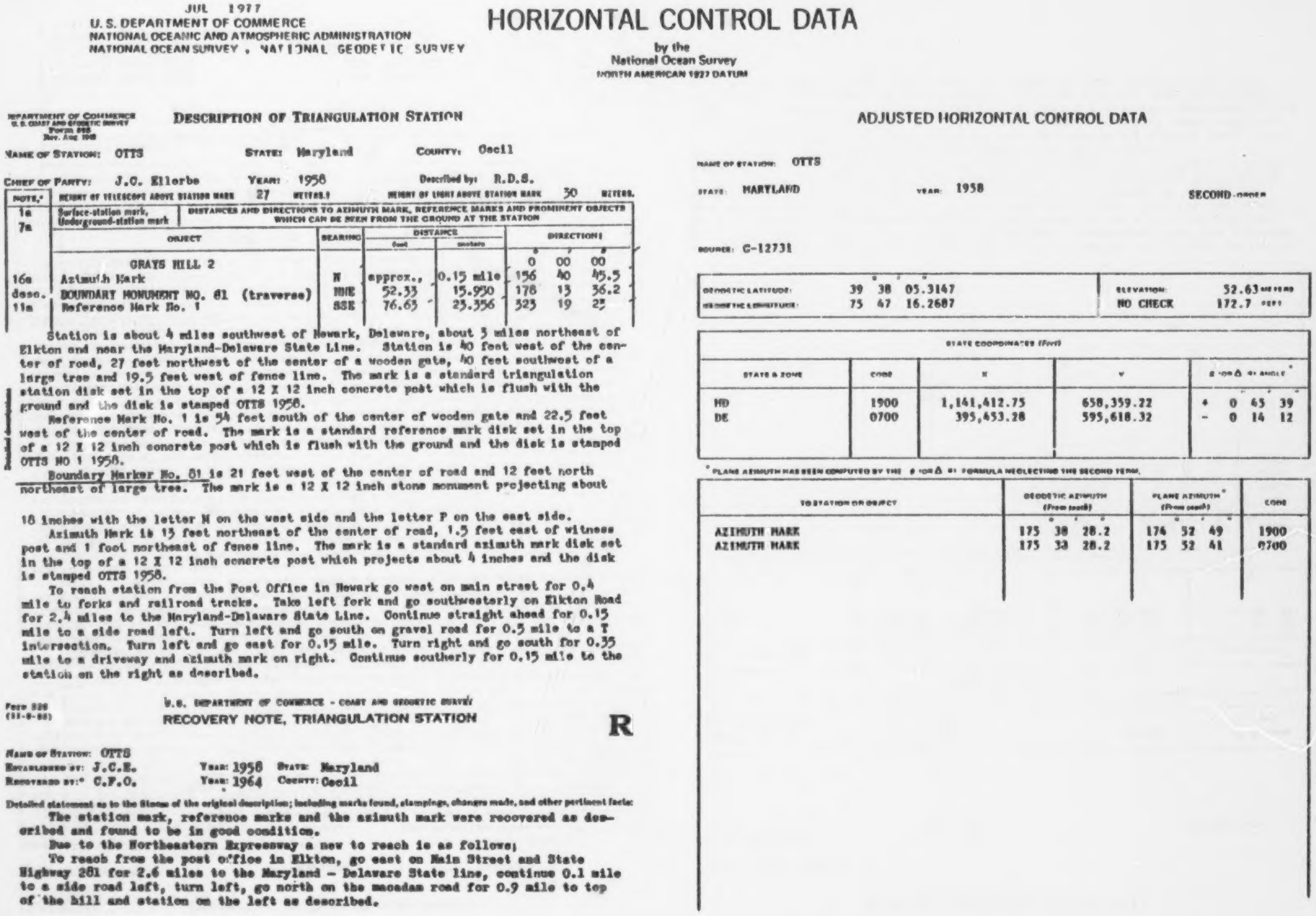
SOURCE G-12731

GEODETIC LATITUDE	39° 37′ 13.2962″	ELEVATION	31.9 METERS
GEODETIC LONGITUDE	75 47 12.0471		105 FEET

STATE COORDINATES (feet)				
STATE & ZONE	ZONE	X	Y	θ (OR Δα) OR ANGLE*
DE	0700	395,761.89	590,353.41	− 0° 14′ 10″
MD	1900	1,161,812.99	653,100.34	+ 0 45 42

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	35° 09′ 25.2″	35° 23′ 35″	0700
AZIMUTH MARK	35 09 25.2	34 23 44	1900



JUL 1977
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: OTTS STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: J.C. Ellorbe YEAR: 1958 Described by: R.D.S.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS.†				HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	DIRECTION '	DIRECTION "
	GRAYS HILL 2				0	00	00
16a	Azimuth Mark	N	approx.,	0.15 mile	156	40	45.5
desc.	BOUNDARY MONUMENT NO. 81 (traverse)	NNE	52.33	15.950	178	13	36.2
11a	Reference Mark No. 1	SSE	76.63	23.356	323	19	23

Station is about 4 miles southwest of Newark, Delaware, about 3 miles northeast of Elkton and near the Maryland-Delaware State Line. Station is 40 feet west of the center of road, 27 feet northwest of the center of a wooden gate, 40 feet southwest of a large tree and 19.5 feet west of fence line. The mark is a standard triangulation station disk set in the top of a 12 X 12 inch concrete post which is flush with the ground and the disk is stamped OTTS 1958.

Reference Mark No. 1 is 54 feet south of the center of wooden gate and 22.5 feet west of the center of road. The mark is a standard reference mark disk set in the top of a 12 X 12 inch concrete post which is flush with the ground and the disk is stamped OTTS NO 1 1958.

Boundary Marker No. 81 is 21 feet west of the center of road and 12 feet north northeast of large tree. The mark is a 12 X 12 inch stone monument projecting about 18 inches with the letter M on the west side and the letter P on the east side.

Azimuth Mark is 13 feet northeast of the center of road, 1.5 feet east of witness post and 1 foot northeast of fence line. The mark is a standard azimuth mark disk set in the top of a 12 X 12 inch concrete post which projects about 4 inches and the disk is stamped OTTS 1958.

To reach station from the Post Office in Newark go west on main street for 0.4 mile to forks and railroad tracks. Take left fork and go southwesterly on Elkton Road for 2.4 miles to the Maryland-Delaware State Line. Continue straight ahead for 0.15 mile to a side road left. Turn left and go south on gravel road for 0.5 mile to a T intersection. Turn left and go east for 0.15 mile. Turn right and go south for 0.35 mile to a driveway and azimuth mark on right. Continue southerly for 0.15 mile to the station on the right as described.

Form [illegible]
([illegible])

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: OTTS
ESTABLISHED BY: J.C.E. YEAR: 1958 STATE: Maryland
RECOVERED BY:* C.F.O. YEAR: 1964 COUNTY: Cecil

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station mark, reference marks and the azimuth mark were recovered as described and found to be in good condition.

Due to the Northeastern Expressway a new to reach is as follows;

To reach from the post office in Elkton, go east on Main Street and State Highway 281 for 2.6 miles to the Maryland - Delaware State line, continue 0.1 mile to a side road left, turn left, go north on the macadam road for 0.9 mile to top of the hill and station on the left as described.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: OTTS

STATE: MARYLAND YEAR: 1958 SECOND-ORDER

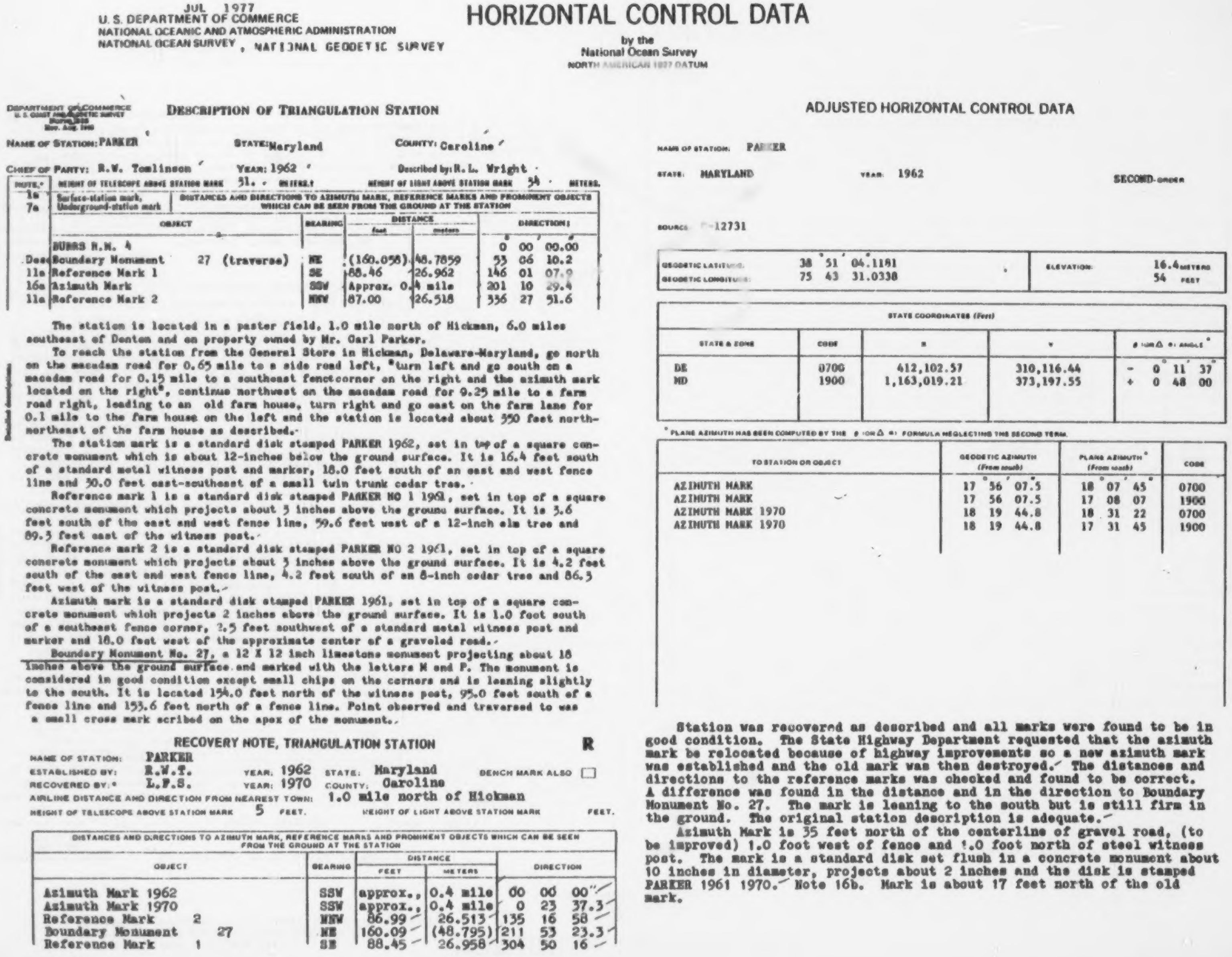
SOURCE: G-12731

	°	'	"		
GEODETIC LATITUDE:	39	38	05.3147	ELEVATION:	52.63 METERS
GEODETIC LONGITUDE:	75	47	16.2687	NO CHECK	172.7 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE* ° ' "
MD	1900	1,141,412.75	658,359.22	+ 0 45 39
DE	0700	395,453.28	595,618.32	- 0 14 12

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE
AZIMUTH MARK	175 38 28.2	174 52 49	1900
AZIMUTH MARK	175 33 28.2	175 52 41	0700



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PARKER STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: R. L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 51. METERS. HEIGHT OF LIGHT ABOVE STATION MARK 54 METERS.

NOTE.*	Surface-station mark, Underground-station mark				
1a 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	BURRS R.M. 4				0 00 00.00
Desc	Boundary Monument 27 (traverse)	NE	(160.058)	48.7859	53 06 10.2
11a	Reference Mark 1	SE	88.46	26.962	146 01 07.9
16a	Azimuth Mark	SSW	Approx. 0.4 mile		201 10 29.4
11a	Reference Mark 2	NNW	87.00	26.518	336 27 51.6

The station is located in a paster field, 1.0 mile north of Hickman, 6.0 miles southeast of Denton and on property owned by Mr. Carl Parker.

To reach the station from the General Store in Hickman, Delaware-Maryland, go north on the macadam road for 0.65 mile to a side road left, °turn left and go south on a macadam road for 0.15 mile to a southeast fenccorner on the right and the azimuth mark located on the right°, continue northwest on the macadam road for 9.25 mile to a farm road right, leading to an old farm house, turn right and go east on the farm lane for 0.1 mile to the farm house on the left and the station is located about 550 feet north-northeast of the farm house as described.

The station mark is a standard disk stamped PARKER 1962, set in top of a square concrete monument which is about 12-inches below the ground surface. It is 16.4 feet south of a standard metal witness post and marker, 18.0 feet south of an east and west fence line and 30.0 feet east-southeast of a small twin trunk cedar tree.

Reference mark 1 is a standard disk stamped PARKER NO 1 1961, set in top of a square concrete monument which projects about 3 inches above the grounu surface. It is 3.6 feet south of the east and west fence line, 59.6 feet west of a 12-inch elm tree and 89.3 feet east of the witness post.

Reference mark 2 is a standard disk stamped PARKER NO 2 1961, set in top of a square concrete monument which projects about 3 inches above the ground surface. It is 4.2 feet south of the east and west fence line, 4.2 feet south of an 8-inch cedar tree and 86.3 feet west of the witness post.

Azimuth mark is a standard disk stamped PARKER 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.0 foot south of a southeast fence corner, 2.5 feet southwest of a standard metal witness post and marker and 18.0 feet west of the approximate center of a graveled road.

Boundary Monument No. 27, a 12 X 12 inch limestone monument projecting about 18 inches above the ground surface and marked with the letters M and P. The monument is considered in good condition except small chips on the corners and is leaning slightly to the south. It is located 154.0 feet north of the witness post, 95.0 feet south of a fence line and 153.6 feet north of a fence line. Point observed and traversed to was a small cross mark scribed on the apex of the monument.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: PARKER
ESTABLISHED BY: R.W.T. YEAR: 1962 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* L.F.S. YEAR: 1970 COUNTY: Caroline
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1.0 mile north of Hickman
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark 1962	SSW	approx.,	0.4 mile	00 00 00″
Azimuth Mark 1970	SSW	approx.,	0.4 mile	0 23 37.3
Reference Mark 2	NNW	86.99	26.513	135 16 58
Boundary Monument 27	NE	160.09	(48.795)	211 53 23.3
Reference Mark 1	SE	88.45	26.958	304 50 16

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PARKER
STATE: MARYLAND YEAR: 1962 SECOND-ORDER

SOURCE: [illegible]-12731

GEODETIC LATITUDE:	38° 51′ 04″.1181	ELEVATION: 16.4 METERS
GEODETIC LONGITUDE:	75 43 31.0338	54 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ OR Δ α ANGLE*
DE	0700	412,102.57	310,116.44	− 0° 11′ 37″
MD	1900	1,163,019.21	373,197.55	+ 0 48 00

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	17° 56′ 07″.5	18° 07′ 45″	0700
AZIMUTH MARK	17 56 07.5	17 08 07	1900
AZIMUTH MARK 1970	18 19 44.8	18 31 22	0700
AZIMUTH MARK 1970	18 19 44.8	17 31 45	1900

Station was recovered as described and all marks were found to be in good condition. The State Highway Department requested that the azimuth mark be relocated because of highway improvements so a new azimuth mark was established and the old mark was then destroyed. The distances and directions to the reference marks was checked and found to be correct. A difference was found in the distance and in the direction to Boundary Monument No. 27. The mark is leaning to the south but is still firm in the ground. The original station description is adequate.

Azimuth Mark is 35 feet north of the centerline of gravel road, (to be improved) 1.0 foot west of fence and 1.0 foot north of steel witness post. The mark is a standard disk set flush in a concrete monument about 10 inches in diameter, projects about 2 inches and the disk is stamped PARKER 1961 1970. Note 16b. Mark is about 17 feet north of the old mark.

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PEARSONS. STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R.W. Tomlinson. YEAR: 1961. Described by: R.L. Wright.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 32.15 METERS.		HEIGHT OF LIGHT ABOVE STATION MARK 34.60 METERS.			
1E 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT		BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	BARCLAY 1896					0 00 00.00
11a	Reference Mark 2		NNW	89.292	27.215	117 25 08.6
	Boundary Monument	55 (traverse)		396.20	120.761	151 06 51.9
16a	Azimuth Mark		NE	Approx. 0.25 mile		198 47 35.5
11a	Reference Mark 1		SSW	91.60	27.920	333 56 06.5

The station is located in a small cultivated field, 5.0 miles west of Kenton, Delaware, 5.0 miles east-southeast of Millington, Maryland and on property owned by Mr. George Pearson.

To reach the station from the crossroads in Sudlersville, go east on State Highway 300 for 5.0 miles to a graveled road left, turn left and go north on the graveled road for 0.8 mile to a crossroad, continue north on the macadam road for 3.25 mile to the end of the macadam and the State Line and the station located on the left as described.

The station mark is a standard disk stamped PEARSONS 1961, set in top of a square concrete monument which is about 20 inches below the ground surface. It is 28.0 feet east of a north and south fence line, 28.9 feet east of a standard metal witness post and marker, 45.0 feet west-southwest of the approximate center of the graveled road and 163.6 feet southwest of a small sign board PEARSONS GROVE.

Reference mark 1 is a standard disk stamped PEARSONS NO 1 1961, set in top of a square concrete monument which is about 1 inch below the ground surface. It is 1.0 foot east of the north and south fence line, 26.0 feet west of the approximate center of the graveled road, 86.6 feet south of the witness post and 245.0 feet southwest of the small sign board PEARSONS GROVE.

Reference mark 2 is a standard disk stamped PEARSONS NO 2 1961, set in top of a square concrete monument which projects about 1 inch above the ground surface. It is 1.6 feet east of the north and south fence line, 85.5 feet north of the witness post, 113.4 feet west-northwest of the approximate center of the graveled road and 157.7 feet west of the small sign board PEARSONS GROVE.

Boundary Monument No. 55 is a 12 X 12 inch granitestone marked M and P and projects about 30 inches above the ground surface. The monument is in good condition. It is located in the north and south fence line, about 75 yards north-northwest of the station site and 1.2 feet east of the north and south fence line, 30.0 feet south of a northeast fence corner and about 115.0 feet west of the approximate center of the graveled road.

To reach the azimuth mark from the station, go north on the graveled road for 0.15 miles to a crossroad, turn right and go 0.1 mile to the azimuth mark on the right.

The azimuth mark is a standard disk stamped PEARSONS 1961, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 1.2 feet south of a standard metal witness post and marker, 1.5 feet west of a powerline pole # 55, 5.0 feet north of the north edge of a cultivated field and 27.0 feet south of the approximate center of the graveled road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PEARSONS

STATE: DELAWARE YEAR: 1961 SECOND ORDER

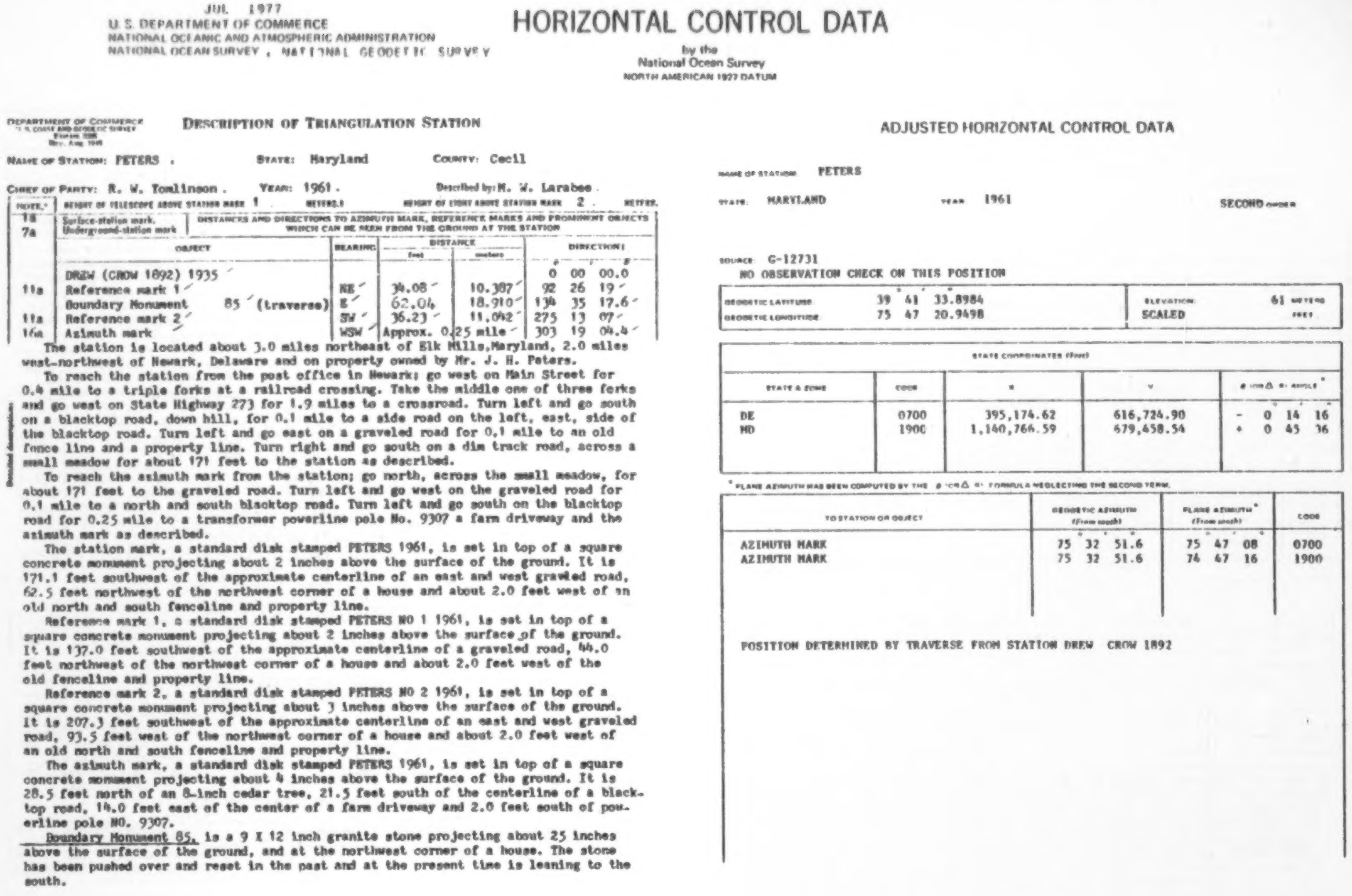
SOURCE: G-12731

	° ′ ″		
GEODETIC LATITUDE:	39 13 39.6643	ELEVATION:	19.4 METERS
GEODETIC LONGITUDE:	75 45 17.1821		64 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	404,216.56	447,289.09	− 0 12 50
MD	1900	1,152,752.10	510,205.92	+ 0 46 54

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	240 10 42.0	240 23 32	0700
AZIMUTH MARK	240 10 42.0	239 23 48	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PETERS . STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R. W. Tomlinson . YEAR: 1961 . Described by: M. W. Larabee .

NOTE.	HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 . METERS.				
1a 7a	Surface-station mark. Underground-station mark. DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	DREW (CROW 1892) 1935				0 00 00.0
11a	Reference mark 1	NE	34.08	10.387	92 26 19
	Boundary Monument 85 (traverse)	E	62.04	18.910	134 35 17.6
11a	Reference mark 2	SW	36.23	11.042	275 13 07
16a	Azimuth mark	WSW	Approx. 0.25 mile		303 19 04.4

The station is located about 3.0 miles northeast of Elk Mills, Maryland, 2.0 miles west-northwest of Newark, Delaware and on property owned by Mr. J. H. Peters.

To reach the station from the post office in Newark; go west on Main Street for 0.4 mile to a triple forks at a railroad crossing. Take the middle one of three forks and go west on State Highway 273 for 1.9 miles to a crossroad. Turn left and go south on a blacktop road, down hill, for 0.1 mile to a side road on the left, east, side of the blacktop road. Turn left and go east on a graveled road for 0.1 mile to an old fence line and a property line. Turn right and go south on a dim track road, across a small meadow for about 171 feet to the station as described.

To reach the azimuth mark from the station; go north, across the small meadow, for about 171 feet to the graveled road. Turn left and go west on the graveled road for 0.1 mile to a north and south blacktop road. Turn left and go south on the blacktop road for 0.25 mile to a transformer powerline pole No. 9307 a farm driveway and the azimuth mark as described.

The station mark, a standard disk stamped PETERS 1961, is set in top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 171.1 feet southwest of the approximate centerline of an east and west graveled road, 62.5 feet northwest of the northwest corner of a house and about 2.0 feet west of an old north and south fenceline and property line.

Reference mark 1, a standard disk stamped PETERS NO 1 1961, is set in top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 137.0 feet southwest of the approximate centerline of a graveled road, 44.0 feet northwest of the northwest corner of a house and about 2.0 feet west of the old fenceline and property line.

Reference mark 2, a standard disk stamped PETERS NO 2 1961, is set in top of a square concrete monument projecting about 3 inches above the surface of the ground. It is 207.3 feet southwest of the approximate centerline of an east and west graveled road, 93.5 feet west of the northwest corner of a house and about 2.0 feet west of an old north and south fenceline and property line.

The azimuth mark, a standard disk stamped PETERS 1961, is set in top of a square concrete monument projecting about 4 inches above the surface of the ground. It is 28.5 feet north of an 8-inch cedar tree, 21.5 feet south of the centerline of a blacktop road, 14.0 feet east of the center of a farm driveway and 2.0 feet south of powerline pole NO. 9307.

Boundary Monument 85, is a 9 X 12 inch granite stone projecting about 25 inches above the surface of the ground, and at the northwest corner of a house. The stone has been pushed over and reset in the past and at the present time is leaning to the south.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PETERS

STATE: MARYLAND YEAR 1961 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

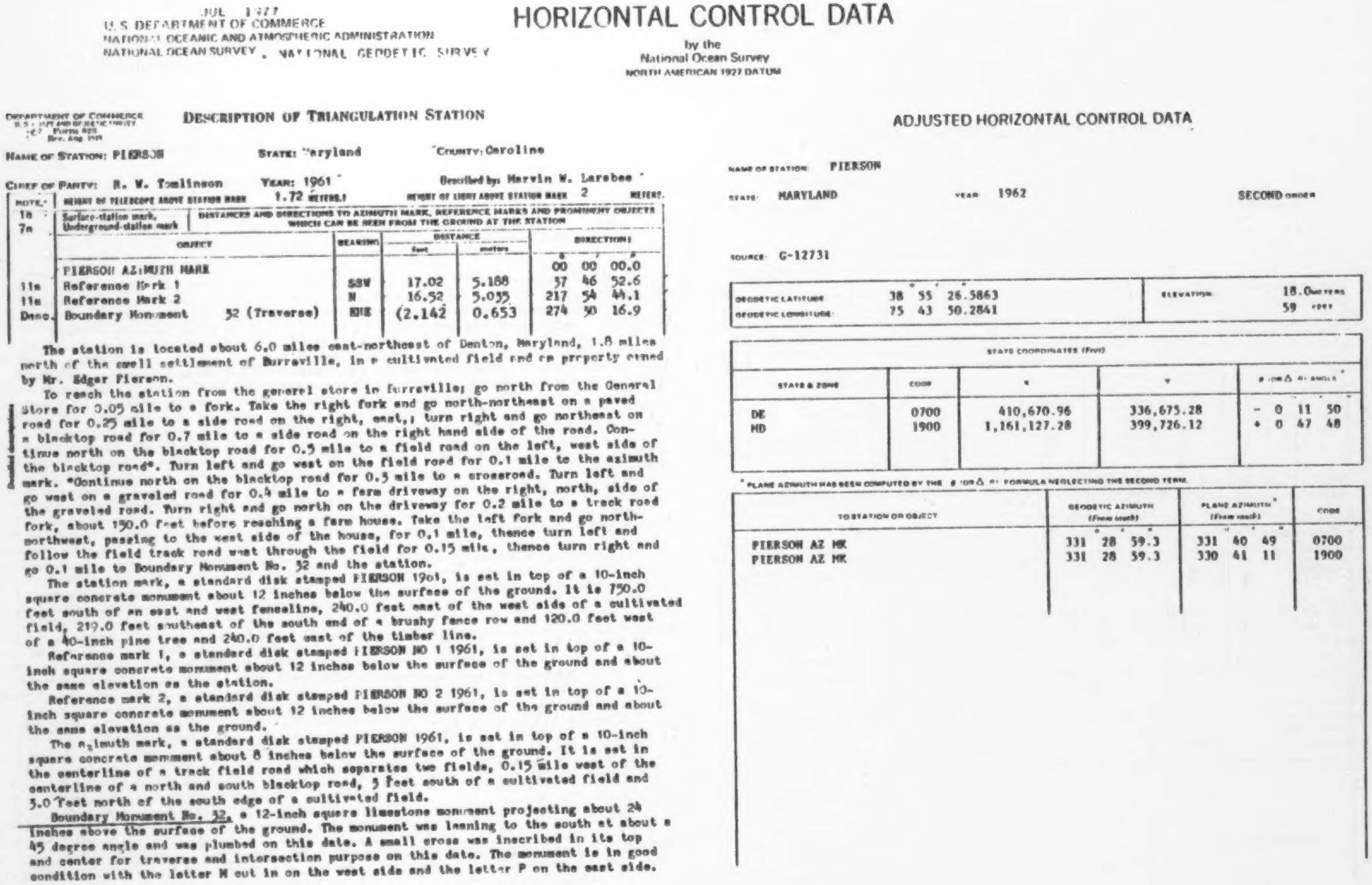
	° ′ ″		
GEODETIC LATITUDE	39 41 33.8984	ELEVATION:	61 METERS
GEODETIC LONGITUDE	75 47 20.9498	SCALED	FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ = CΔλ + ANGLE* ° ′ ″
DE	0700	395,174.62	616,724.90	- 0 14 16
MD	1900	1,140,766.59	679,458.54	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ = CΔλ + FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
AZIMUTH MARK	75 32 51.6	75 47 08	0700
AZIMUTH MARK	75 32 51.6	74 47 16	1900

POSITION DETERMINED BY TRAVERSE FROM STATION DREW CROW 1892



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1959

DESCRIPTION OF TRIANGULATION STATION

Name of Station: PIERSON State: Maryland County: Caroline

Chief of Party: R. W. Tomlinson Year: 1961 Described by: Marvin W. Larabee

Height of telescope above station mark 1.72 meters. Height of light above station mark 2 meters.

Note	Surface-station mark, Underground-station mark	Distances and directions to azimuth mark, reference marks and prominent objects which can be seen from the ground at the station				
1a 7a	Object		Bearing	Distance feet	Distance meters	Directions ° ′ ″
	PIERSON AZIMUTH MARK					00 00 00.0
11a	Reference Mark 1		SSW	17.02	5.188	37 46 52.6
11a	Reference Mark 2		N	16.52	5.035	217 54 44.1
Desc.	Boundary Monument	32 (Traverse)	NNE	(2.142	0.653	274 30 16.9

The station is located about 6.0 miles east-northeast of Denton, Maryland, 1.8 miles north of the small settlement of Burrsville, in a cultivated field and on property owned by Mr. Edgar Pierson.

To reach the station from the general store in Burrsville; go north from the General Store for 0.05 mile to a fork. Take the right fork and go north-northeast on a paved road for 0.25 mile to a side road on the right, east,; turn right and go northeast on a blacktop road for 0.7 mile to a side road on the right hand side of the road. Continue north on the blacktop road for 0.5 mile to a field road on the left, west side of the blacktop road*. Turn left and go west on the field road for 0.1 mile to the azimuth mark. *Continue north on the blacktop road for 0.3 mile to a crossroad. Turn left and go west on a graveled road for 0.4 mile to a farm driveway on the right, north, side of the graveled road. Turn right and go north on the driveway for 0.2 mile to a track road fork, about 150.0 feet before reaching a farm house. Take the left fork and go north-northwest, passing to the west side of the house, for 0.1 mile, thence turn left and follow the field track road west through the field for 0.15 mile, thence turn right and go 0.1 mile to Boundary Monument No. 32 and the station.

The station mark, a standard disk stamped PIERSON 1961, is set in top of a 10-inch square concrete monument about 12 inches below the surface of the ground. It is 750.0 feet south of an east and west fenceline, 240.0 feet east of the west side of a cultivated field, 219.0 feet southeast of the south end of a brushy fence row and 120.0 feet west of a 40-inch pine tree and 240.0 feet east of the timber line.

Reference mark 1, a standard disk stamped PIERSON NO 1 1961, is set in top of a 10-inch square concrete monument about 12 inches below the surface of the ground and about the same elevation as the station.

Reference mark 2, a standard disk stamped PIERSON NO 2 1961, is set in top of a 10-inch square concrete monument about 12 inches below the surface of the ground and about the same elevation as the ground.

The azimuth mark, a standard disk stamped PIERSON 1961, is set in top of a 10-inch square concrete monument about 8 inches below the surface of the ground. It is set in the centerline of a track field road which separates two fields, 0.15 mile west of the centerline of a north and south blacktop road, 3 feet south of a cultivated field and 3.0 feet north of the south edge of a cultivated field.

Boundary Monument No. 32, a 12-inch square limestone monument projecting about 24 inches above the surface of the ground. The monument was leaning to the south at about a 45 degree angle and was plumbed on this date. A small cross was inscribed in its top and center for traverse and intersection purpose on this date. The monument is in good condition with the letter M cut in on the west side and the letter P on the east side.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PIERSON

STATE: MARYLAND YEAR: 1962 SECOND ORDER

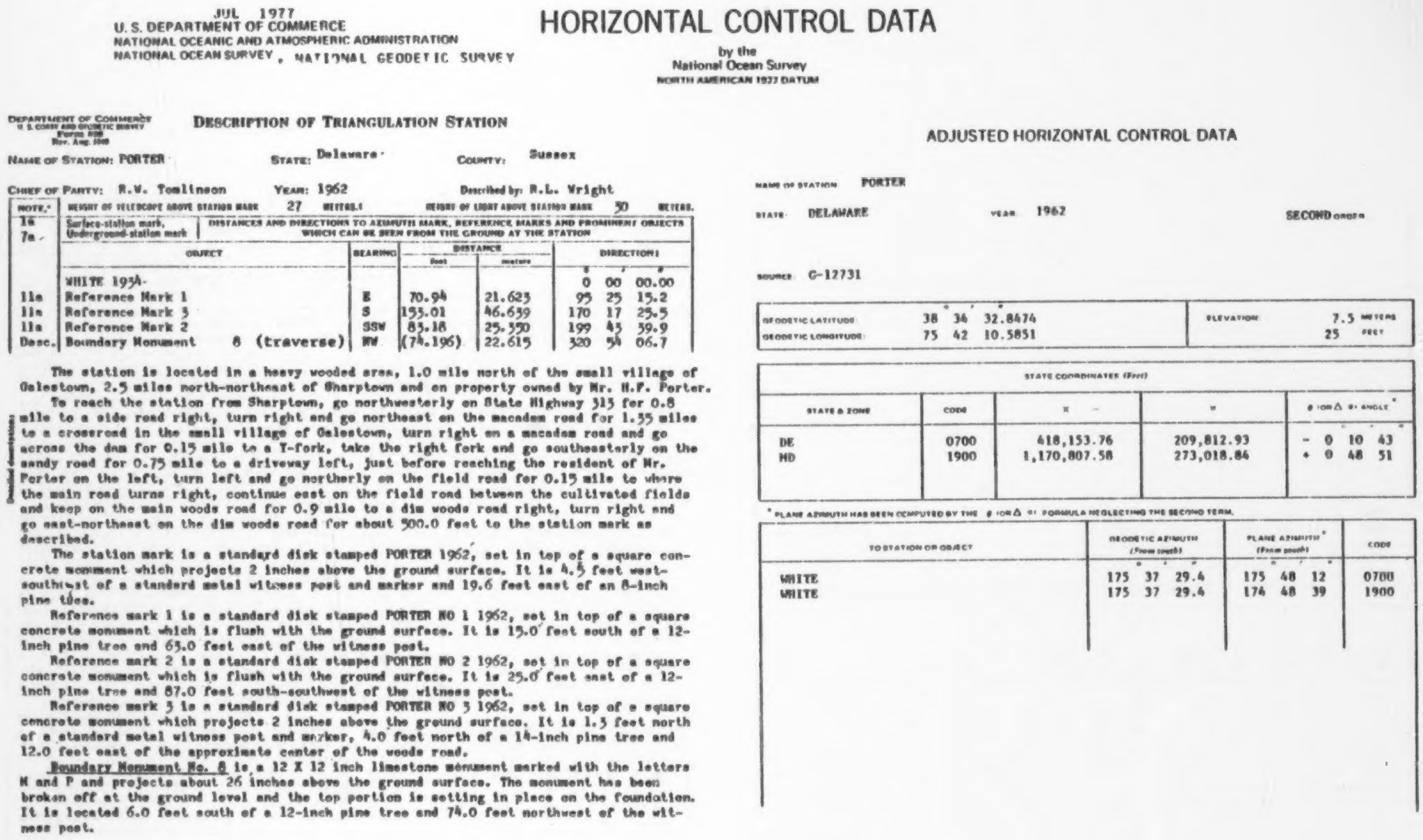
SOURCE: G-12731

	° ′ ″		
GEODETIC LATITUDE:	38 55 26.5863	ELEVATION:	18.0 METERS
GEODETIC LONGITUDE:	75 43 50.2841		59 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (or Δ α) ANGLE* ° ′ ″
DE	0700	410,670.96	336,675.28	- 0 11 50
MD	1900	1,161,127.28	399,726.12	+ 0 47 48

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
PIERSON AZ MK	331 28 59.3	331 40 49	0700
PIERSON AZ MK	331 28 59.3	330 41 11	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1949

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PORTER STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: R.L. Wright

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.				
1a 7a	Surface-station mark, Underground-station mark — DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	WHITE 1934				0 00 00.00
11a	Reference Mark 1	E	70.94	21.623	95 25 15.2
11a	Reference Mark 3	S	153.01	46.639	170 17 25.5
11a	Reference Mark 2	SSW	83.18	25.350	199 43 39.9
Desc.	Boundary Monument 8 (traverse)	NW	(74.196)	22.615	320 54 06.7

The station is located in a heavy wooded area, 1.0 mile north of the small village of Galestown, 2.5 miles north-northeast of Sharptown and on property owned by Mr. H.F. Porter.

To reach the station from Sharptown, go northwesterly on State Highway 313 for 0.8 mile to a side road right, turn right and go northeast on the macadam road for 1.35 miles to a crossroad in the small village of Galestown, turn right on a macadam road and go across the dam for 0.15 mile to a Y-fork, take the right fork and go southeasterly on the sandy road for 0.75 mile to a driveway left, just before reaching the resident of Mr. Porter on the left, turn left and go northerly on the field road for 0.15 mile to where the main road turns right, continue east on the field road between the cultivated fields and keep on the main woods road for 0.9 mile to a dim woods road right, turn right and go east-northeast on the dim woods road for about 500.0 feet to the station mark as described.

The station mark is a standard disk stamped PORTER 1962, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 4.5 feet west-southwest of a standard metal witness post and marker and 19.6 feet east of an 8-inch pine tree.

Reference mark 1 is a standard disk stamped PORTER NO 1 1962, set in top of a square concrete monument which is flush with the ground surface. It is 15.0 feet south of a 12-inch pine tree and 63.0 feet east of the witness post.

Reference mark 2 is a standard disk stamped PORTER NO 2 1962, set in top of a square concrete monument which is flush with the ground surface. It is 25.0 feet east of a 12-inch pine tree and 87.0 feet south-southwest of the witness post.

Reference mark 3 is a standard disk stamped PORTER NO 3 1962, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 1.3 feet north of a standard metal witness post and marker, 4.0 feet north of a 14-inch pine tree and 12.0 feet east of the approximate center of the woods road.

Boundary Monument No. 8 is a 12 X 12 inch limestone monument marked with the letters M and P and projects about 26 inches above the ground surface. The monument has been broken off at the ground level and the top portion is setting in place on the foundation. It is located 6.0 feet south of a 12-inch pine tree and 74.0 feet northwest of the witness post.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION PORTER

STATE DELAWARE YEAR 1962 SECOND ORDER

SOURCE G-12731

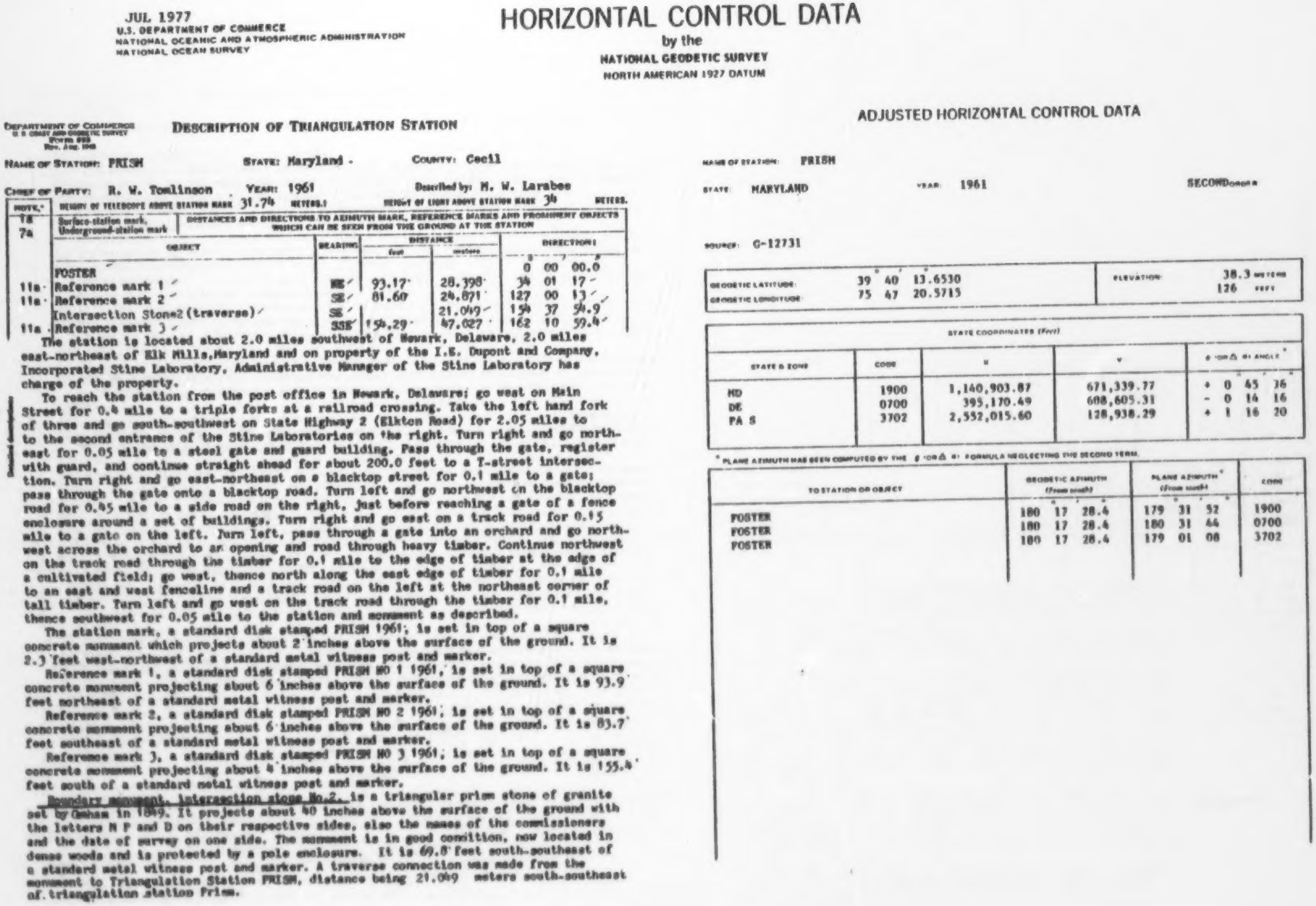
	° ′ ″		
GEODETIC LATITUDE	38 34 32.8474	ELEVATION	7.5 METERS
GEODETIC LONGITUDE	75 42 10.5851		25 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* ° ′ ″
DE	0700	418,153.76	209,812.93	− 0 10 43
MD	1900	1,170,807.58	273,018.84	+ 0 48 51

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
WHITE	175 37 29.4	175 48 12	0700
WHITE	175 37 29.4	174 48 39	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HORIZONTAL CONTROL DATA

by the
NATIONAL GEODETIC SURVEY
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PRISM STATE: Maryland COUNTY: Cecil

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: M. W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.74 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.

NOTE.*	Surface-station mark, Underground-station mark				
18 7a	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	FOSTER				0 00 00.0
11a	Reference mark 1	NE	93.17	28.398	34 01 17
11a	Reference mark 2	SE	81.60	24.871	127 00 13
	Intersection Stone2 (traverse)	SE		21.049	154 37 54.9
11a	Reference mark 3	SSE	154.29	47.027	162 10 59.4

The station is located about 2.0 miles southwest of Newark, Delaware, 2.0 miles east-northeast of Elk Mills, Maryland and on property of the I.E. Dupont and Company, Incorporated Stine Laboratory. Administrative Manager of the Stine Laboratory has charge of the property.

To reach the station from the post office in Newark, Delaware; go west on Main Street for 0.4 mile to a triple forks at a railroad crossing. Take the left hand fork of three and go south-southwest on State Highway 2 (Elkton Road) for 2.05 miles to to the second entrance of the Stine Laboratories on the right. Turn right and go northeast for 0.05 mile to a steel gate and guard building. Pass through the gate, register with guard, and continue straight ahead for about 200.0 feet to a T-street intersection. Turn right and go east-northeast on a blacktop street for 0.1 mile to a gate; pass through the gate onto a blacktop road. Turn left and go northwest on the blacktop road for 0.45 mile to a side road on the right, just before reaching a gate of a fence enclosure around a set of buildings. Turn right and go east on a track road for 0.15 mile to a gate on the left. Turn left, pass through a gate into an orchard and go northwest across the orchard to an opening and road through heavy timber. Continue northwest on the track road through the timber for 0.1 mile to the edge of timber at the edge of a cultivated field; go west, thence north along the east edge of timber for 0.1 mile to an east and west fenceline and a track road on the left at the northeast corner of tall timber. Turn left and go west on the track road through the timber for 0.1 mile, thence southwest for 0.05 mile to the station and monument as described.

The station mark, a standard disk stamped PRISM 1961, is set in top of a square concrete monument which projects about 2 inches above the surface of the ground. It is 2.3 feet west-northwest of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped PRISM NO 1 1961, is set in top of a square concrete monument projecting about 6 inches above the surface of the ground. It is 93.9 feet northeast of a standard metal witness post and marker.

Reference mark 2, a standard disk stamped PRISM NO 2 1961, is set in top of a square concrete monument projecting about 6 inches above the surface of the ground. It is 83.7 feet southeast of a standard metal witness post and marker.

Reference mark 3, a standard disk stamped PRISM NO 3 1961, is set in top of a square concrete monument projecting about 4 inches above the surface of the ground. It is 155.4 feet south of a standard metal witness post and marker.

Boundary monument, intersection stone No.2, is a trianguler prism stone of granite set by Graham in 1849. It projects about 40 inches above the surface of the ground with the letters M P and D on their respective sides, also the names of the commissioners and the date of survey on one side. The monument is in good condition, now located in dense woods and is protected by a pole enclosure. It is 69.8 feet south-southeast of a standard metal witness post and marker. A traverse connection was made from the monument to Triangulation Station PRISM, distance being 21.049 meters south-southeast of triangulation station Prism.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PRISM

STATE: MARYLAND YEAR: 1961 SECOND ORDER

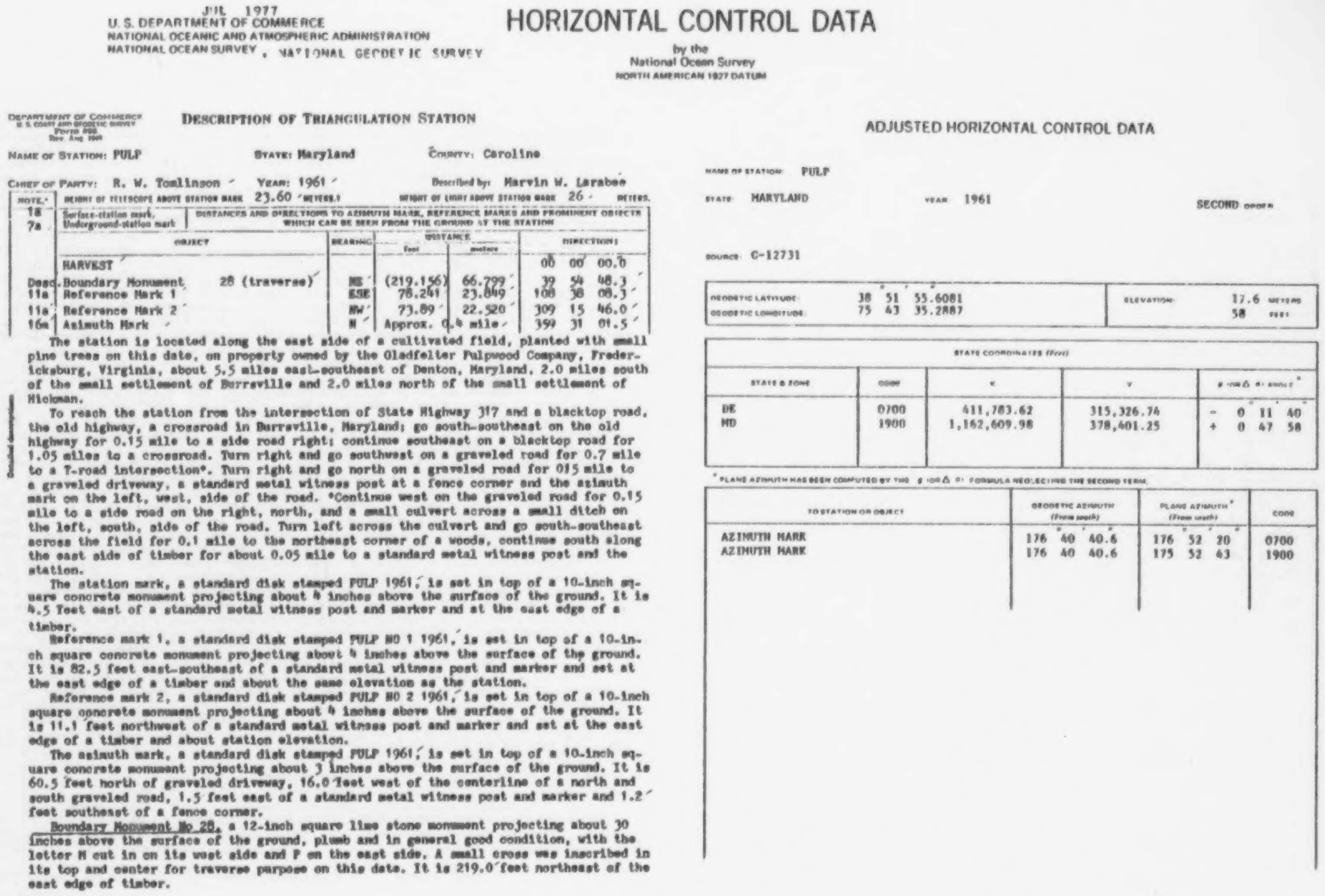
SOURCE: G-12731

	° ′ ″		
GEODETIC LATITUDE:	39 40 13.6530	ELEVATION:	38.3 METERS
GEODETIC LONGITUDE:	75 47 20.5715		126 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR $\Delta\alpha$ ANGLE* ° ′ ″
MD	1900	1,140,903.87	671,339.77	+ 0 45 36
DE	0700	395,170.49	608,605.31	- 0 14 16
PA S	3702	2,552,015.60	128,938.29	+ 1 16 20

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE $t-T$ OR $\Delta\alpha$ FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
FOSTER	180 17 28.4	179 31 52	1900
FOSTER	180 17 28.4	180 31 44	0700
FOSTER	180 17 28.4	179 01 08	3702



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PULP STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 23.60 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 26 METERS.

NOTE.* 18 Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	HARVEST				00 00 00.0
Desc.	Boundary Monument 28 (traverse)	NE	(219.156)	66.799	39 54 48.3
11a	Reference Mark 1	ESE	78.241	23.849	108 38 08.3
11a	Reference Mark 2	NW	73.89	22.520	309 15 46.0
16a	Azimuth Mark	N	Approx. 0.4 mile		359 31 01.5

The station is located along the east side of a cultivated field, planted with small pine trees on this date, on property owned by the Gladfelter Pulpwood Company, Fredericksburg, Virginia, about 5.5 miles east-southeast of Denton, Maryland, 2.0 miles south of the small settlement of Burrsville and 2.0 miles north of the small settlement of Hickman.

To reach the station from the intersection of State Highway 317 and a blacktop road, the old highway, a crossroad in Burrsville, Maryland; go south-southeast on the old highway for 0.15 mile to a side road right; continue southeast on a blacktop road for 1.05 miles to a crossroad. Turn right and go southwest on a graveled road for 0.7 mile to a T-road intersection*. Turn right and go north on a graveled road for 0.15 mile to a graveled driveway, a standard metal witness post at a fence corner and the azimuth mark on the left, west, side of the road. *Continue west on the graveled road for 0.15 mile to a side road on the right, north, and a small culvert across a small ditch on the left, south, side of the road. Turn left across the culvert and go south-southeast across the field for 0.1 mile to the northeast corner of a woods, continue south along the east side of timber for about 0.05 mile to a standard metal witness post and the station.

The station mark, a standard disk stamped PULP 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 4.5 feet east of a standard metal witness post and marker and at the east edge of a timber.

Reference mark 1, a standard disk stamped PULP NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 82.5 feet east-southeast of a standard metal witness post and marker and set at the east edge of a timber and about the same elevation as the station.

Reference mark 2, a standard disk stamped PULP NO 2 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 11.1 feet northwest of a standard metal witness post and marker and set at the east edge of a timber and about station elevation.

The azimuth mark, a standard disk stamped PULP 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 60.5 feet north of graveled driveway, 16.0 feet west of the centerline of a north and south graveled road, 1.5 feet east of a standard metal witness post and marker and 1.2 feet southeast of a fence corner.

Boundary Monument No 28, a 12-inch square lime stone monument projecting about 30 inches above the surface of the ground, plumb and in general good condition, with the letter M cut in on its west side and P on the east side. A small cross was inscribed in its top and center for traverse purpose on this date. It is 219.0 feet northeast of the east edge of timber.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION PULP

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

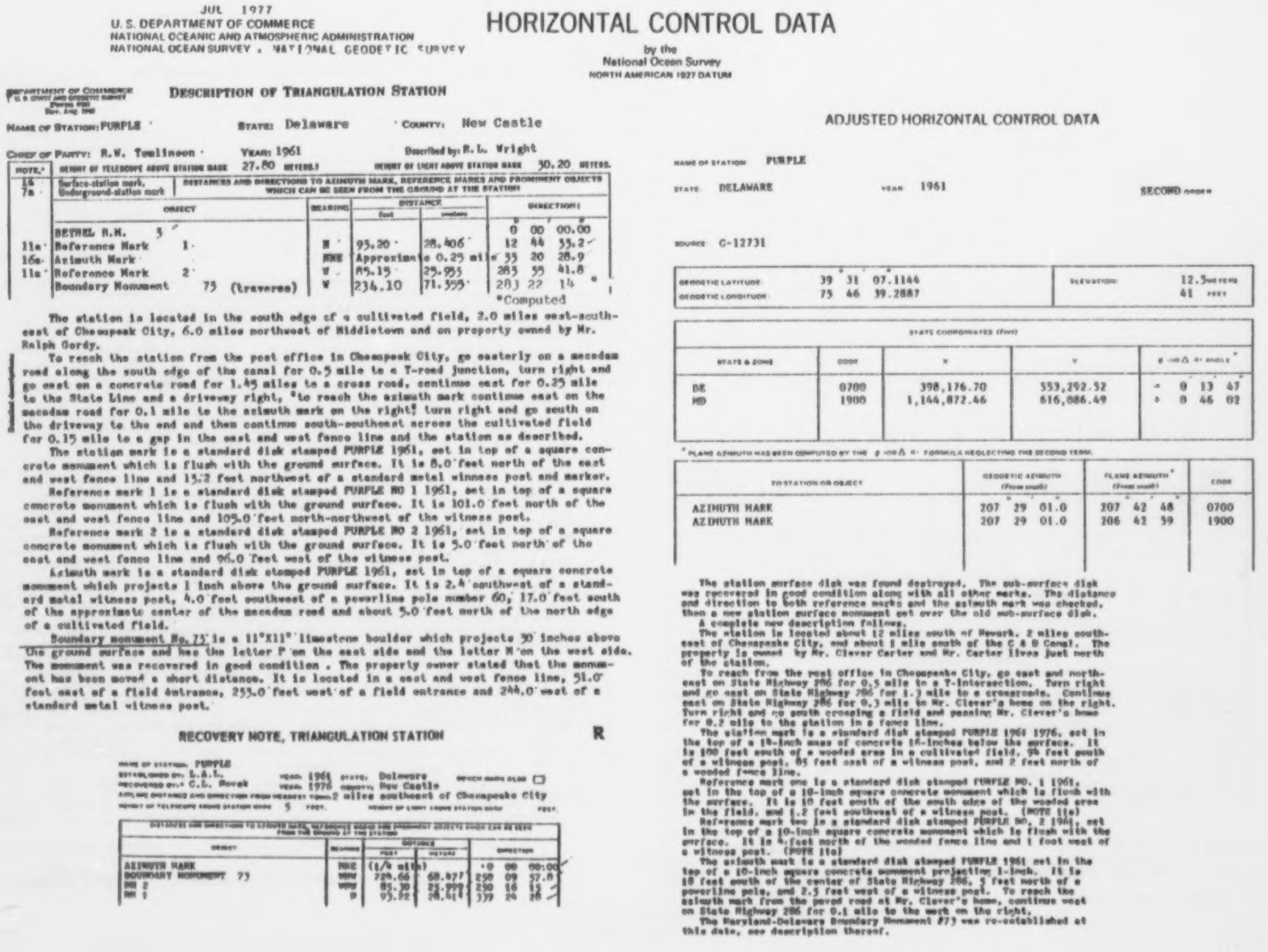
GEODETIC LATITUDE	38° 51′ 55.6081″	ELEVATION	17.6 METERS
GEODETIC LONGITUDE	75 43 35.2887		58 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	411,783.62	315,326.74	− 0° 11′ 40″
MD	1900	1,162,609.98	378,401.25	+ 0 47 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	176° 40′ 40.6″	176° 52′ 20″	0700
AZIMUTH MARK	176 40 40.6	175 52 43	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: PURPLE   STATE: Delaware   COUNTY: New Castle

CHIEF OF PARTY: R.W. Tomlinson   YEAR: 1961   Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.80 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 30.20 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
14 7a	Surface-station mark, Underground-station mark				
	BETHEL R.M. 3				0 00 00.00
11a	Reference Mark 1	N	93.20	28.406	12 44 53.2
16a	Azimuth Mark	NNE	Approximate 0.25 mile		35 20 28.9
11a	Reference Mark 2	W	85.15	25.955	283 55 41.8
	Boundary Monument 73 (traverse)	W	234.10	71.355	283 22 14 *

*Computed

The station is located in the south edge of a cultivated field, 2.0 miles east-southeast of Chesapeak City, 6.0 miles northwest of Middletown and on property owned by Mr. Ralph Gordy.

To reach the station from the post office in Chesapeak City, go easterly on a macadam road along the south edge of the canal for 0.5 mile to a T-road junction, turn right and go east on a concrete road for 1.45 miles to a cross road, continue east for 0.25 mile to the State Line and a driveway right, (to reach the azimuth mark continue east on the macadam road for 0.1 mile to the azimuth mark on the right), turn right and go south on the driveway to the end and then continue south-southeast across the cultivated field for 0.15 mile to a gap in the east and west fence line and the station as described.

The station mark is a standard disk stamped PURPLE 1961, set in top of a square concrete monument which is flush with the ground surface. It is 8.0 feet north of the east and west fence line and 13.2 feet northwest of a standard metal winness post and marker.

Reference mark 1 is a standard disk stamped PURPLE NO 1 1961, set in top of a square concrete monument which is flush with the ground surface. It is 101.0 feet north of the east and west fence line and 105.0 feet north-northwest of the witness post.

Reference mark 2 is a standard disk stamped PURPLE NO 2 1961, set in top of a square concrete monument which is flush with the ground surface. It is 5.0 feet north of the east and west fence line and 96.0 feet west of the witness post.

Azimuth mark is a standard disk stamped PURPLE 1961, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 2.4 southwest of a standard metal witness post, 4.0 feet southwest of a powerline pole number 60, 17.0 feet south of the approximate center of the macadam road and about 5.0 feet north of the north edge of a cultivated field.

Boundary monument No. 73 is a 11"X11" limestone boulder which projects 30 inches above the ground surface and has the letter P on the east side and the letter M on the west side. The monument was recovered in good condition. The property owner stated that the monument has been moved a short distance. It is located in a east and west fence line, 51.0 feet east of a field entrance, 253.0 feet west of a field entrance and 244.0 west of a standard metal witness post.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: PURPLE
ESTABLISHED BY: L.A.L.   YEAR: 1961   STATE: Delaware   [illegible] ☐
RECOVERED BY: C.L. Novak   YEAR: 1976   COUNTY: New Castle
DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles southeast of Chesapeake City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.   HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	NNE	(1/4 mile)		0 00 00.00
BOUNDARY MONUMENT 73	WSW	224.66	68.477	250 09 57.8
RM 2	WNW	85.30	25.999	290 16 13
RM 1	N	93.22	28.413	339 24 28

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: PURPLE
STATE: DELAWARE   YEAR: 1961   SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE	39 31 07.1144	ELEVATION	12.5 METERS
GEODETIC LONGITUDE	75 46 39.2887		41 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	398,176.70	553,292.52	- 0 13 47
MD	1900	1,144,872.46	616,086.49	+ 0 46 02

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	207 29 01.0	207 42 48	0700
AZIMUTH MARK	207 29 01.0	206 42 59	1900

The station surface disk was found destroyed. The sub-surface disk was recovered in good condition along with all other marks. The distance and direction to both reference marks and the azimuth mark was checked, then a new station surface monument set over the old sub-surface disk.

A complete new description follows.

The station is located about 12 miles south of Newark, 2 miles southeast of Chesapeake City, and about 1 mile south of the C & D Canal. The property is owned by Mr. Clever Carter and Mr. Carter lives just north of the station.

To reach from the post office in Chesapeake City, go east and northeast on State Highway 286 for 0.5 mile to a T-intersection. Turn right and go east on State Highway 286 for 1.3 mile to a crossroads. Continue east on State Highway 286 for 0.3 mile to Mr. Clever's home on the right. Turn right and go south crossing a field and passing Mr. Clever's home for 0.2 mile to the station in a fence line.

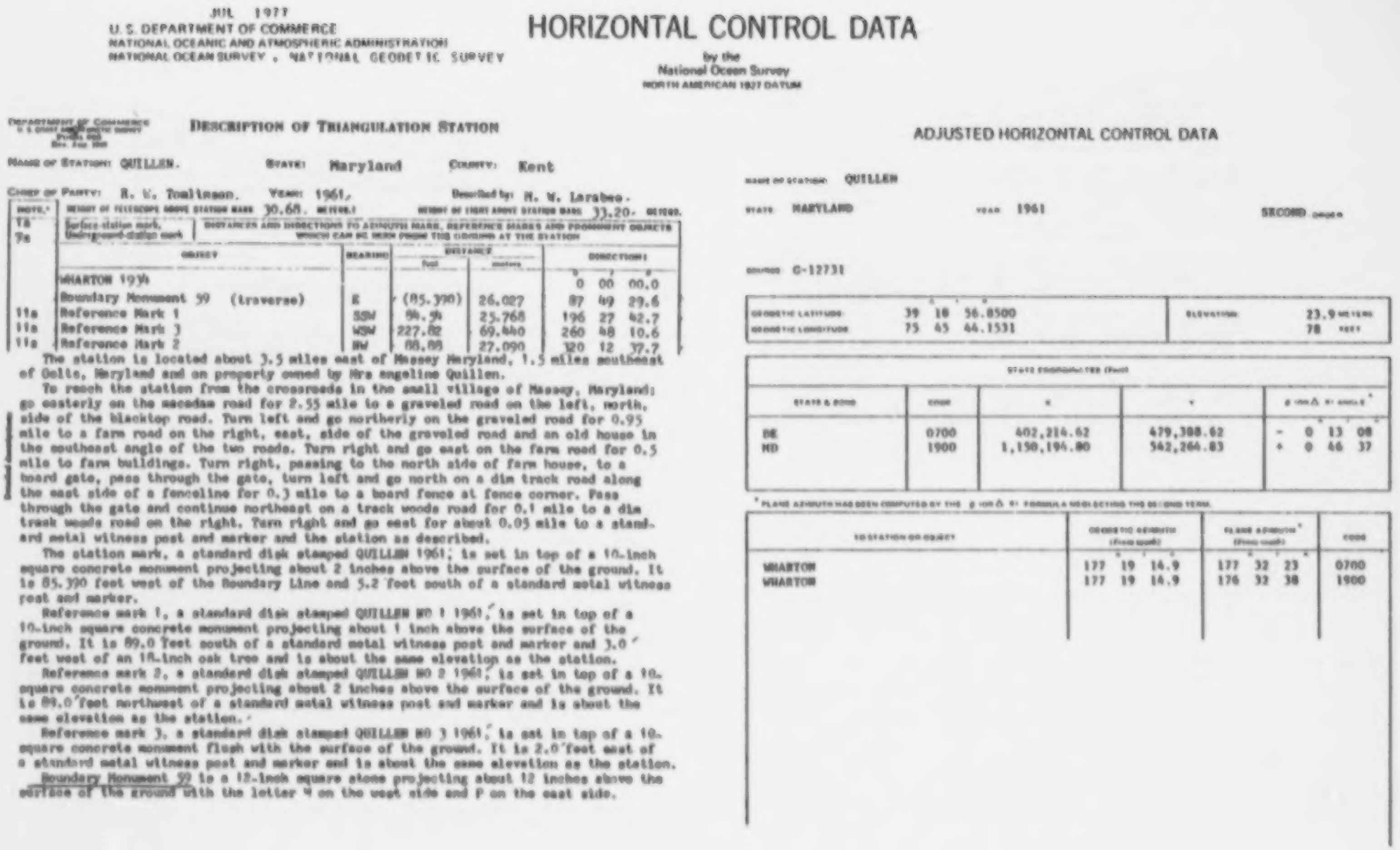
The station mark is a standard disk stamped PURPLE 1961 1976, set in the top of a 14-inch mass of concrete 16-inches below the surface. It is 100 feet south of a wooded area in a cultivated field, 96 feet south of a witness post, 85 feet east of a witness post, and 2 feet north of a wooded fence line.

Reference mark one is a standard disk stamped PURPLE NO. 1 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 10 feet south of the south edge of the wooded area in the field, and 1.2 feet southwest of a witness post. (NOTE 11a)

Reference mark two is a standard disk stamped PURPLE NO. 2 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 4 feet north of the wooded fence line and 1 foot west of a witness post. (NOTE 11a)

The azimuth mark is a standard disk stamped PURPLE 1961 set in the top of a 10-inch square concrete monument projecting 1-inch. It is 18 feet south of the center of State Highway 286, 5 feet north of a powerline pole, and 2.5 feet west of a witness post. To reach the azimuth mark from the paved road at Mr. Clever's home, continue west on State Highway 286 for 0.1 mile to the mark on the right.

The Maryland-Delaware Boundary Monument #73 was re-established at this date, see description thereof.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: QUILLEN. STATE: Maryland COUNTY: Kent

CHIEF OF PARTY: R. W. Tomlinson. YEAR: 1961, Described by: M. W. Larabee.

HEIGHT OF TELESCOPE ABOVE STATION MARK 30.68. METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33.20. METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
7a	Surface-station mark,				
9a	Underground-station mark				
	WHARTON 1934				0 00 00.0
	Boundary Monument 59 (traverse)	E	(85.390)	26.027	87 49 29.6
11a	Reference Mark 1	SSW	84.54	25.768	196 27 42.7
11a	Reference Mark 3	WSW	227.82	69.440	260 48 10.6
11a	Reference Mark 2	NW	88.88	27.090	320 12 37.7

The station is located about 3.5 miles east of Massey Maryland, 1.5 miles southeast of Golts, Maryland and on property owned by Mrs angeline Quillen.

To reach the station from the crossroads in the small village of Massey, Maryland; go easterly on the macadam road for 2.55 mile to a graveled road on the left, north, side of the blacktop road. Turn left and go northerly on the graveled road for 0.95 mile to a farm road on the right, east, side of the graveled road and an old house in the southeast angle of the two roads. Turn right and go east on the farm road for 0.5 mile to farm buildings. Turn right, passing to the north side of farm house, to a board gate, pass through the gate, turn left and go north on a dim track road along the east side of a fenceline for 0.3 mile to a board fence at fence corner. Pass through the gate and continue northeast on a track woods road for 0.1 mile to a dim track woods road on the right. Turn right and go east for about 0.05 mile to a standard metal witness post and marker and the station as described.

The station mark, a standard disk stamped QUILLEN 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 85.390 feet west of the Boundary Line and 5.2 feet south of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped QUILLEN NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 89.0 feet south of a standard metal witness post and marker and 3.0 feet west of an 18-inch oak tree and is about the same elevation as the station.

Reference mark 2, a standard disk stamped QUILLEN NO 2 1961, is set in top of a 10-square concrete monument projecting about 2 inches above the surface of the ground. It is 89.0 feet northwest of a standard metal witness post and marker and is about the same elevation as the station.

Reference mark 3, a standard disk stamped QUILLEN NO 3 1961, is set in top of a 10-square concrete monument flush with the surface of the ground. It is 2.0 feet east of a standard metal witness post and marker and is about the same elevation as the station.

Boundary Monument 59 is a 12-inch square stone projecting about 12 inches above the surface of the ground with the letter M on the west side and P on the east side.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION QUILLEN

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

	° ′ ″		
GEODETIC LATITUDE	39 18 56.8500	ELEVATION	23.9 METERS
GEODETIC LONGITUDE	75 45 44.1531		78 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	402,214.62	479,388.62	- 0 13 08
MD	1900	1,150,194.80	542,264.83	+ 0 46 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
WHARTON	177 19 14.9	177 32 23	0700
WHARTON	177 19 14.9	176 32 38	1900

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: RELIANCE   STATE: Delaware   COUNTY: Sussex

CHIEF OF PARTY: R. W. Tomlinson   YEAR: 1962   Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.53 METERS   HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS

NOTE.*	OBJECT	BEARING	DISTANCE Feet	DISTANCE Meters	DIRECTIONS
1B	Surface station mark,				
7a	Underground station mark				
	WRIGHT AZIMUTH MARK (geod. distance)			1658.882	00 00 00.0
11a	Reference Mark 1	N	41.44	12.630	29 12 12.6
11a	Reference Mark 2	S	25.50	7.773	205 42 47.3
Desc.	Azimuth Mark (bench mark A65)	W	Approx. 0.5 mile		280 35 52.4

The station is located along the east road right-of-way of a north and south blacktop road, in the village of Reliance, about 5.5 miles west of Sanford, Delaware, 5.5 miles southeast of Federalsburg, Maryland and about 0.1 mile south of the central section of Reliance.

To reach the station from the intersection of Main Street and Central Avenue in Federalsburg; go east on Central Avenue for 0.2 mile to a side street on the right, State Highway 313. Turn right and go south on State Highway 313 for 1.7 miles to where the highway turns sharp to the right; continue south-southeast on State Highway 577 for 3.65 miles to the small village of Reliance, a side road on the right hand side of the highway at the Maryland and Delaware State Line. Turn right and go south on the State Line Road for 0.1 mile to a standard metal witness post and marker, powerline pole No. 148-16 and the station on the left, east, side of the blacktop road.

To reach the azimuth mark, Bench Mark A65, go north on the State Line Road for 0.1 mile to the junction of U.S. Highway 20 and State Highway 577. Turn left and go southwest on U. S. Highway 20 for 0.4 mile to a standard metal witness post and marker and mark on the right, north side of the highway.

The station mark, a standard disk stamped RELIANCE 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 43.1 feet south of powerline pole No. 148-16, 28.9 feet east of the centerline of a blacktop road, 5.8 feet north of a standard metal witness post and marker and 4.4 feet east of a cut bank.

Reference mark 1, a standard disk stamped RELIANCE NO 1 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 47.4 feet north of a standard metal witness post and marker, 31.6 feet east of the centerline of a blacktop road, 2.0 feet south of powerline pole No. 148-16 and about station elevation.

Reference mark 2, a standard disk stamped RELIANCE NO 2 1962; is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 28.3 feet east of the centerline of a blacktop road, 46.0 feet southeast of the centerline of the intersection of a driveway and the blacktop road, 19.7 feet south of a standard metal witness post and marker, 4.4 feet southeast of a road sign and station elevation.

The azimuth mark, a standard Coast and Geodetic Survey Bench Mark Disk stamped A65 1942, is set in top of a 6 inch square concrete monument projecting about 5 inches above the surface of the ground. It is 91.0 feet northwest of the centerline of the intersection of a driveway, 24.3 feet northeast of the centerline of U.S. Highway 20, 4.0 feet west of a standard metal witness post and marker, 1.0 feet southwest of a fence line and about 1.0 foot lower than the surface of the highway.

Boundary Monument No. 12 was not recovered. It is reported to be in the center of the blacktop road, about 2.0 feet under the road surface.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION RELIANCE

STATE DELAWARE   YEAR 1962   SECOND ORDER

SOURCE G-12731

GEODETIC LATITUDE:	38 38 02.9903	ELEVATION:	13.5 METERS
GEODETIC LONGITUDE:	75 42 27.3414		44 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
DE	0700	416,890.37	231,076.01	- 0 10 54
MD	1900	1,169,176.07	294,255.95	+ 0 48 40

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK BM A 65	80 23 42.0	80 34 36	0700
AZ MK BM A 65	80 23 42.0	79 35 02	1900

RECOVERY NOTE, TRIANGULATION STATION

R

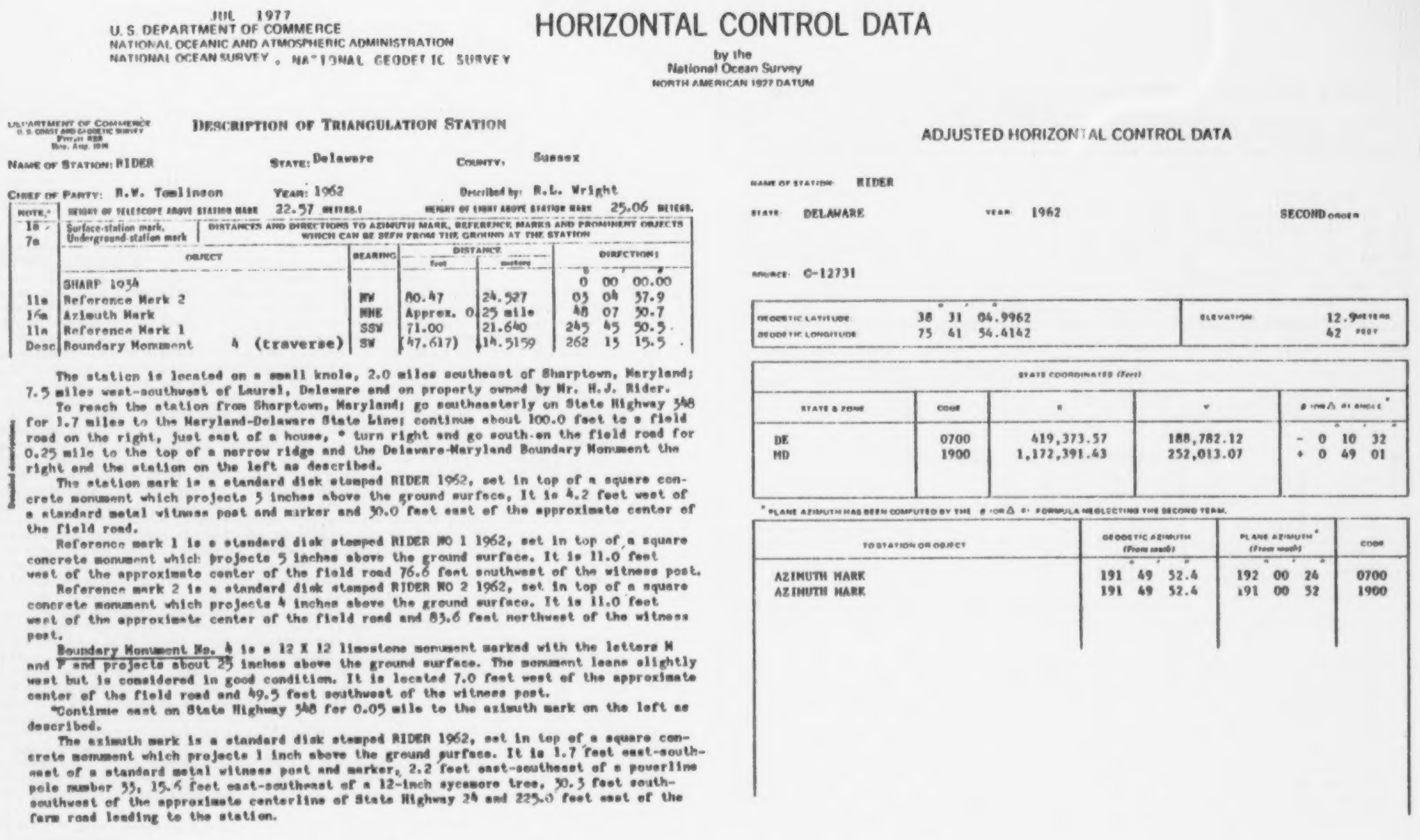
NAME OF STATION: RELIANCE
ESTABLISHED BY: L.A.L.   YEAR: 1962   STATE: Delaware   BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak   YEAR: 1976   COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: In Reliance
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET.   HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
DODD 1962	S	(1 mile)		°0 00 00.00
BOUNDARY MONUMENT 12	N	439.59	133.987	175 23 28.1
RM 1	N	41.44	12.632	182 55 47
RM 2	S	25.50	7.774	359 27 46

The station and both reference marks were recovered and found in good condition as previously described. The azimuth mark was searched for but not found as previously reported. The distance and direction to all marks checked previous observations.

The Maryland-Delaware Boundary Monument number 12 was reset at this date. see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: RIDER STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R.V. Tomlinson YEAR: 1962 Described by: R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 22.57 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 25.06 METERS.

Surface-station mark, Underground-station mark: 1a - 7a

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	'	"
	SHARP 1934				0	00	00.00
11a	Reference Mark 2	NW	80.47	24.527	03	04	37.9
14a	Azimuth Mark	NNE	Approx. 0.25 mile		48	07	30.7
11a	Reference Mark 1	SSW	71.00	21.640	245	45	50.5
Desc	Boundary Monument 4 (traverse)	SW	(47.617)	14.5159	262	15	15.5

The station is located on a small knole, 2.0 miles southeast of Sharptown, Maryland; 7.5 miles west-southwest of Laurel, Delaware and on property owned by Mr. H.J. Rider.

To reach the station from Sharptown, Maryland; go southeasterly on State Highway 348 for 1.7 miles to the Maryland-Delaware State Line; continue about 100.0 feet to a field road on the right, just east of a house, * turn right and go south on the field road for 0.25 mile to the top of a narrow ridge and the Delaware-Maryland Boundary Monument the right and the station on the left as described.

The station mark is a standard disk stamped RIDER 1962, set in top of a square concrete monument which projects 5 inches above the ground surface, It is 4.2 feet west of a standard metal witness post and marker and 30.0 feet east of the approximate center of the field road.

Reference mark 1 is a standard disk stamped RIDER NO 1 1962, set in top of a square concrete monument which projects 5 inches above the ground surface. It is 11.0 feet west of the approximate center of the field road 76.6 feet southwest of the witness post.

Reference mark 2 is a standard disk stamped RIDER NO 2 1962, set in top of a square concrete monument which projects 4 inches above the ground surface. It is 11.0 feet west of the approximate center of the field road and 83.6 feet northwest of the witness post.

Boundary Monument No. 4 is a 12 X 12 limestone monument marked with the letters M and P and projects about 25 inches above the ground surface. The monument leans slightly west but is considered in good condition. It is located 7.0 feet west of the approximate center of the field road and 49.5 feet southwest of the witness post.

*Continue east on State Highway 348 for 0.05 mile to the azimuth mark on the left as described.

The azimuth mark is a standard disk stamped RIDER 1962, set in top of a square concrete monument which projects 1 inch above the ground surface. It is 1.7 feet east-southeast of a standard metal witness post and marker, 2.2 feet east-southeast of a powerline pole number 33, 15.6 feet east-southeast of a 12-inch sycamore tree, 30.3 feet south-southwest of the approximate centerline of State Highway 24 and 225.0 feet east of the farm road leading to the station.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: RIDER

STATE: DELAWARE YEAR: 1962 SECOND ORDER

SOURCE: G-12731

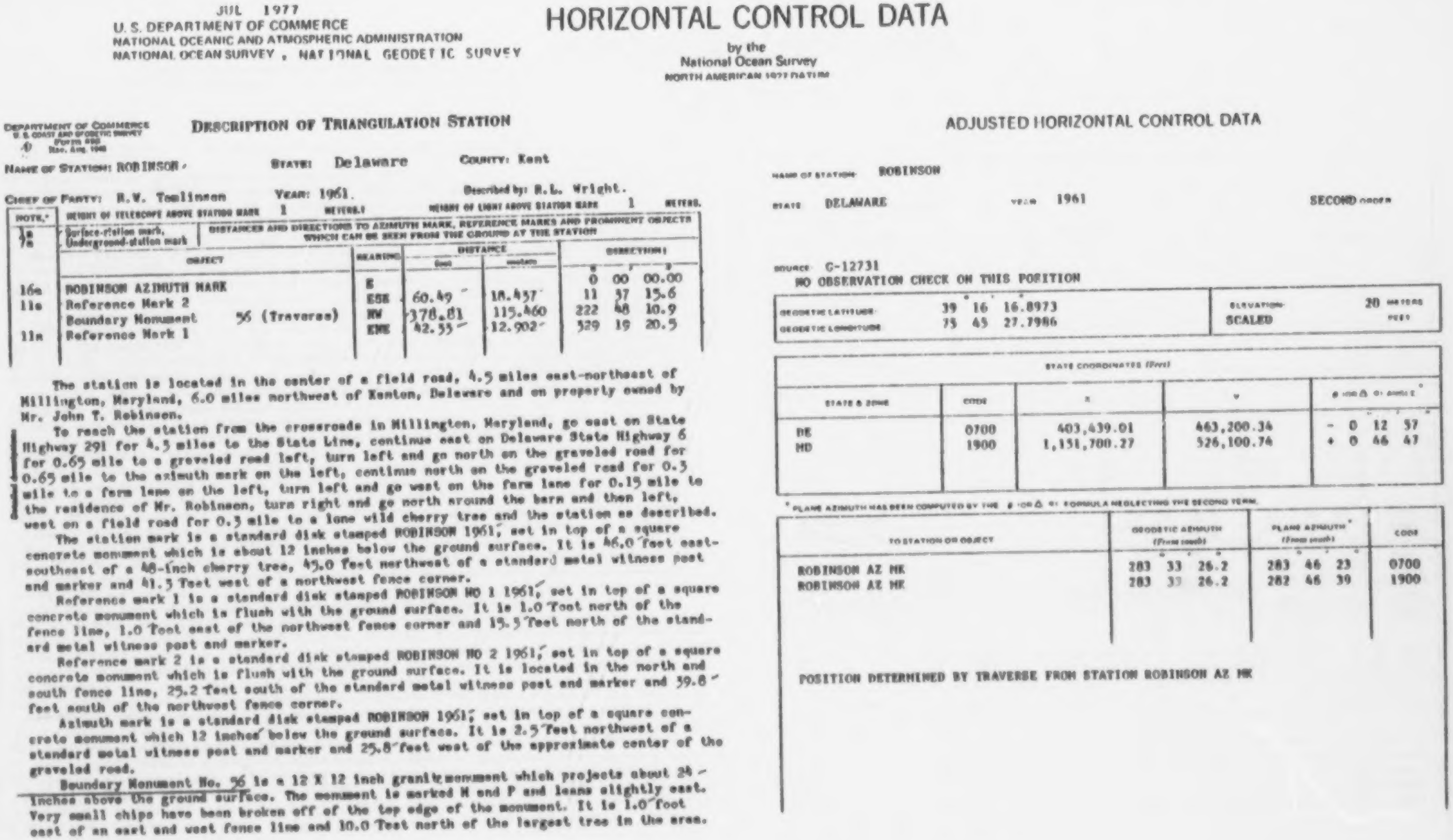
	°	'	"		
GEODETIC LATITUDE	38	31	04.9962	ELEVATION	12.9 METERS
GEODETIC LONGITUDE	75	41	54.4142		42 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	419,373.57	188,782.12	- 0° 10' 32"
MD	1900	1,172,391.43	252,013.07	+ 0° 49' 01"

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	191° 49' 52.4"	192° 00' 24"	0700
AZIMUTH MARK	191° 49' 52.4"	191° 00' 52"	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ROBINSON   STATE: Delaware   COUNTY: Kent

CHIEF OF PARTY: R.V. Tomlinson   YEAR: 1961.   Described by: R.L. Wright.

HEIGHT OF TELESCOPE ABOVE STATION MARK 1 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.

NOTE.* 1a Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

Note	Object	Bearing	Distance feet	Distance meters	Direction °	′	″
16a	ROBINSON AZIMUTH MARK	E			0	00	00.00
11a	Reference Mark 2	ESE	60.49	18.437	11	37	15.6
	Boundary Monument 56 (Traverse)	NW	378.81	115.460	222	48	10.9
11a	Reference Mark 1	ENE	42.33	12.902	329	19	20.5

The station is located in the center of a field road, 4.5 miles east-northeast of Millington, Maryland, 6.0 miles northwest of Kenton, Delaware and on property owned by Mr. John T. Robinson.

To reach the station from the crossroads in Millington, Maryland, go east on State Highway 291 for 4.3 miles to the State Line, continue east on Delaware State Highway 6 for 0.65 mile to a graveled road left, turn left and go north on the graveled road for 0.65 mile to the azimuth mark on the left, continue north on the graveled road for 0.3 mile to a farm lane on the left, turn left and go west on the farm lane for 0.15 mile to the residence of Mr. Robinson, turn right and go north around the barn and then left, west on a field road for 0.3 mile to a lone wild cherry tree and the station as described.

The station mark is a standard disk stamped ROBINSON 1961, set in top of a square concrete monument which is about 12 inches below the ground surface. It is 46.0 feet east-southeast of a 48-inch cherry tree, 43.0 feet northwest of a standard metal witness post and marker and 41.3 feet west of a northwest fence corner.

Reference mark 1 is a standard disk stamped ROBINSON NO 1 1961, set in top of a square concrete monument which is flush with the ground surface. It is 1.0 foot north of the fence line, 1.0 foot east of the northwest fence corner and 15.3 feet north of the standard metal witness post and marker.

Reference mark 2 is a standard disk stamped ROBINSON NO 2 1961, set in top of a square concrete monument which is flush with the ground surface. It is located in the north and south fence line, 25.2 feet south of the standard metal witness post and marker and 39.8 feet south of the northwest fence corner.

Azimuth mark is a standard disk stamped ROBINSON 1961, set in top of a square concrete monument which 12 inches below the ground surface. It is 2.5 feet northwest of a standard metal witness post and marker and 25.8 feet west of the approximate center of the graveled road.

Boundary Monument No. 56 is a 12 X 12 inch granite monument which projects about 24 inches above the ground surface. The monument is marked M and P and leans slightly east. Very small chips have been broken off of the top edge of the monument. It is 1.0 foot east of an east and west fence line and 10.0 feet north of the largest tree in the area.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION ROBINSON

STATE DELAWARE   YEAR 1961   SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	39	16	16.8973	ELEVATION	20 METERS
GEODETIC LONGITUDE	75	45	27.7986	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* °	′	″
DE	0700	403,439.01	463,200.34	- 0	12	57
MD	1900	1,151,700.27	526,100.74	+ 0	46	47

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
ROBINSON AZ MK	283	33	26.2	283	46	23	0700
ROBINSON AZ MK	283	33	26.2	282	46	39	1900

POSITION DETERMINED BY TRAVERSE FROM STATION ROBINSON AZ MK

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SANDTOWN. STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson. YEAR: 1961 Described by: Marvin W. Larabee

NOTE 1	HEIGHT OF TELESCOPE ABOVE STATION MARK 31.73 METERS; HEIGHT OF LIGHT ABOVE STATION MARK 35 METERS				
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	WHITELEY 1936				00 00 00.0
11a	Reference Mark 1	NNE	105.52	32.164	211 31 52.5
11a	Reference Mark 2	SE	89.41	27.252	304 06 53.7
16a	Azimuth Mark	SSE	Approx. 0.2 mile		341 53 29.3
Desc.	Boundary Monument 39 (traverse)	SSE	(57.11)	17.407	344 18 29.1

The station is located about 3.5 miles east-southeast of Goldsboro, Maryland, 1.2 miles west-southwest of the small settlement of Sandtown, Delaware and on property owned by Mr. Charles Cohee.

To reach the station from the forks of roads in Goldsboro, Maryland; go north of State Highway 311 for 0.3 mile to a crossroad, the junction of State Highway 287 and State Highway 311. Turn right and go east on State Highway 287 for 2.25 miles to a side road on the right, south side of the highway, just after passing a grocery store and Service Station on the left. Turn right and go southeast on a graveled road for 0.3 mile to a T-road intersection. Turn right and go south on a blacktop road for 0.05 mile to a side road on the left, east, side of the road. Turn left and go southeast on a blacktop road for 0.05 mile to a standard metal witness post, the Boundary Monument and the station as described.

To reach the azimuth mark from the station; continue southeast on the blacktop road for 0.2 mile to a drainage ditch, an east and west fenceline, a standard metal witness post and the azimuth mark on the right, west, side of the road as described.

The station mark, a standard disk stamped SANDTOWN 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 39.0 feet south of the centerline of a blacktop road and 2.0 feet north-northeast of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped SANDTOWN NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 109.0 feet north-northwest of a standard metal witness post and marker, 39.5 feet north of the centerline of a blacktop road, 21.5 feet west of a 12-inch pine tree and is about the same elevation as the station.

Reference mark 2, a standard disk stamped SANDTOWN NO 2 1961, is set in top of a 10-square concrete monument projecting about 2 inches above the surface of the ground. It is 91.0 feet north-northwest of a standard metal witness post and marker, 30.7 feet north of the centerline of a blacktop road, 19.0 feet east of a 10-inch pine tree and is about 12 inches higher than the station mark.

The azimuth mark, a standard disk stamped SANDTOWN 1961, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 54.0 feet south of the centerline of a blacktop road, 5.9 feet west of the west edge of a drainage ditch and 1.7 feet north of a standard metal witness post and marker.

Boundary Monument No. 39, a 12-inch limestone monument projecting about 30 inches above the surface of the ground. The stone leans about 8 degrees to the south, with a deep pit in its south side, the upper edges badly broken, marked with the letter M on the west side and the letter P on the east side. It is 75.0 feet north of the south-east corner of woods, 62.6 feet east of a standard metal witness post and marker, and 26.5 feet south of the centerline of a blacktop road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SANDTOWN

STATE MARYLAND YEAR 1961 SECOND ORDER

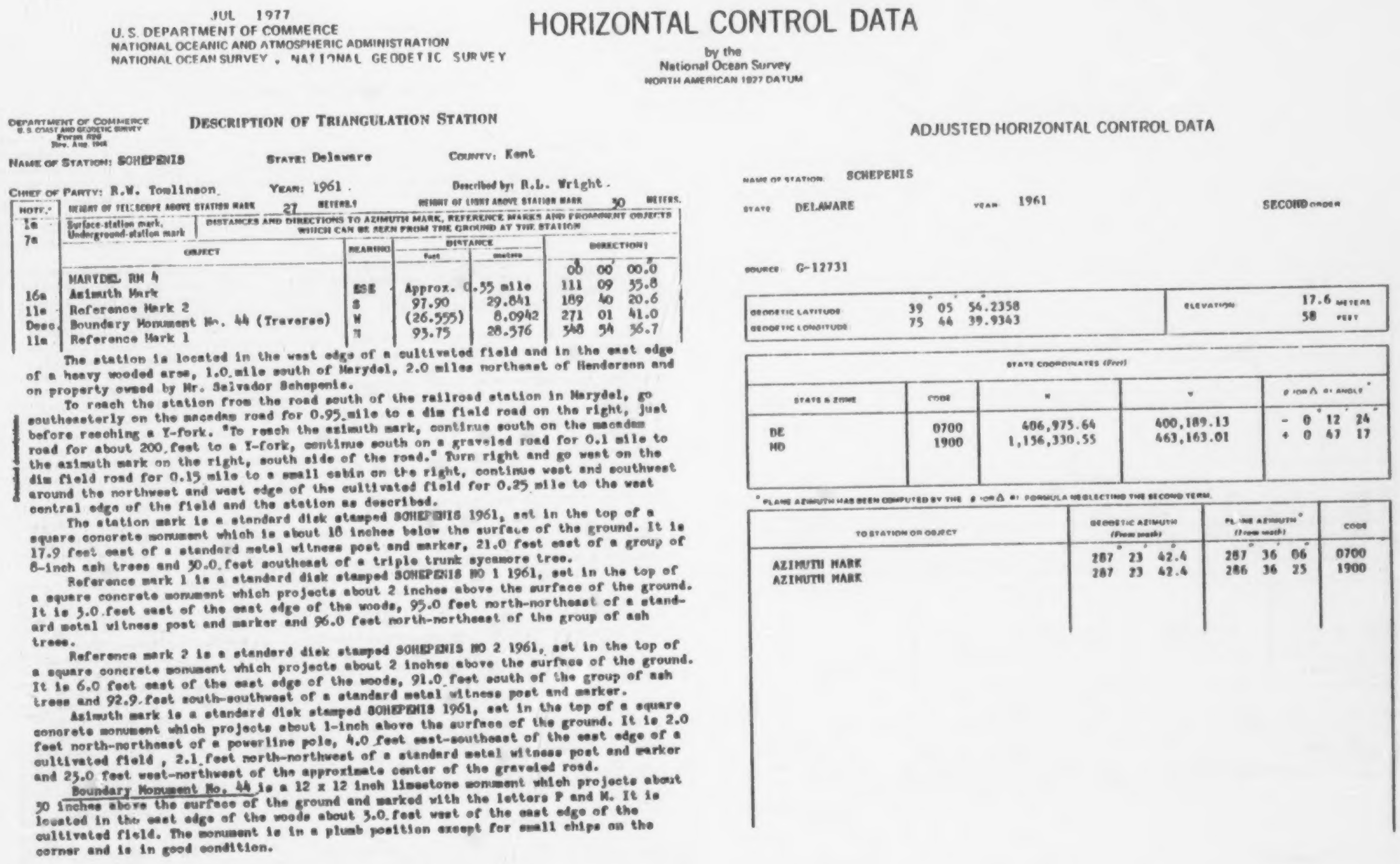
SOURCE G-12731

GEODETIC LATITUDE	39° 01′ 32.9296″	ELEVATION	16.3 METERS
GEODETIC LONGITUDE	75 44 19.6051		54 FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) OR ANGLE *
DE	0700	408,484.71	373,746.49	− 0° 12′ 10″
MD	1900	1,158,298.28	436,751.86	+ 0 47 30

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH * (From south)	CODE
AZIMUTH MARK	338° 17′ 10.9″	338° 29′ 21″	0700
AZIMUTH MARK	338 17 10.9	337 29 41	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 526
Rev. Aug. 1948

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SCHEPENIS STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R.W. Towlinson YEAR: 1961 Described by: R.L. Wright

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS		HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	MARYDEL RM 4				00° 00′ 00.0″
16a	Azimuth Mark	ESE	Approx. 0.35 mile		111 09 35.8
11a	Reference Mark 2	S	97.90	29.841	189 40 20.6
Desc.	Boundary Monument No. 44 (Traverse)	W	(26.555)	8.0942	271 01 41.0
11a	Reference Mark 1	N	93.75	28.576	348 54 36.7

The station is located in the west edge of a cultivated field and in the east edge of a heavy wooded area, 1.0 mile south of Marydel, 2.0 miles northeast of Henderson and on property owned by Mr. Salvador Schepenis.

To reach the station from the road south of the railroad station in Marydel, go southeasterly on the macadam road for 0.95 mile to a dim field road on the right, just before reaching a Y-fork. "To reach the azimuth mark, continue south on the macadam road for about 200 feet to a Y-fork, continue south on a graveled road for 0.1 mile to the azimuth mark on the right, south side of the road." Turn right and go west on the dim field road for 0.15 mile to a small cabin on the right, continue west and southwest around the northwest and west edge of the cultivated field for 0.25 mile to the west central edge of the field and the station as described.

The station mark is a standard disk stamped SCHEPENIS 1961, set in the top of a square concrete monument which is about 18 inches below the surface of the ground. It is 17.9 feet east of a standard metal witness post and marker, 21.0 feet east of a group of 8-inch ash trees and 30.0 feet southeast of a triple trunk sycamore tree.

Reference mark 1 is a standard disk stamped SCHEPENIS NO 1 1961, set in the top of a square concrete monument which projects about 2 inches above the surface of the ground. It is 3.0 feet east of the east edge of the woods, 95.0 feet north-northeast of a standard metal witness post and marker and 96.0 feet north-northeast of the group of ash trees.

Reference mark 2 is a standard disk stamped SCHEPENIS NO 2 1961, set in the top of a square concrete monument which projects about 2 inches above the surface of the ground. It is 6.0 feet east of the east edge of the woods, 91.0 feet south of the group of ash trees and 92.9 feet south-southwest of a standard metal witness post and marker.

Azimuth mark is a standard disk stamped SCHEPENIS 1961, set in the top of a square concrete monument which projects about 1-inch above the surface of the ground. It is 2.0 feet north-northeast of a powerline pole, 4.0 feet east-southeast of the east edge of a cultivated field , 2.1 feet north-northwest of a standard metal witness post and marker and 23.0 feet west-northwest of the approximate center of the graveled road.

Boundary Monument No. 44 is a 12 x 12 inch limestone monument which projects about 30 inches above the surface of the ground and marked with the letters P and M. It is located in the east edge of the woods about 3.0 feet west of the east edge of the cultivated field. The monument is in a plumb position except for small chips on the corner and is in good condition.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SCHEPENIS

STATE DELAWARE YEAR 1961 SECOND ORDER

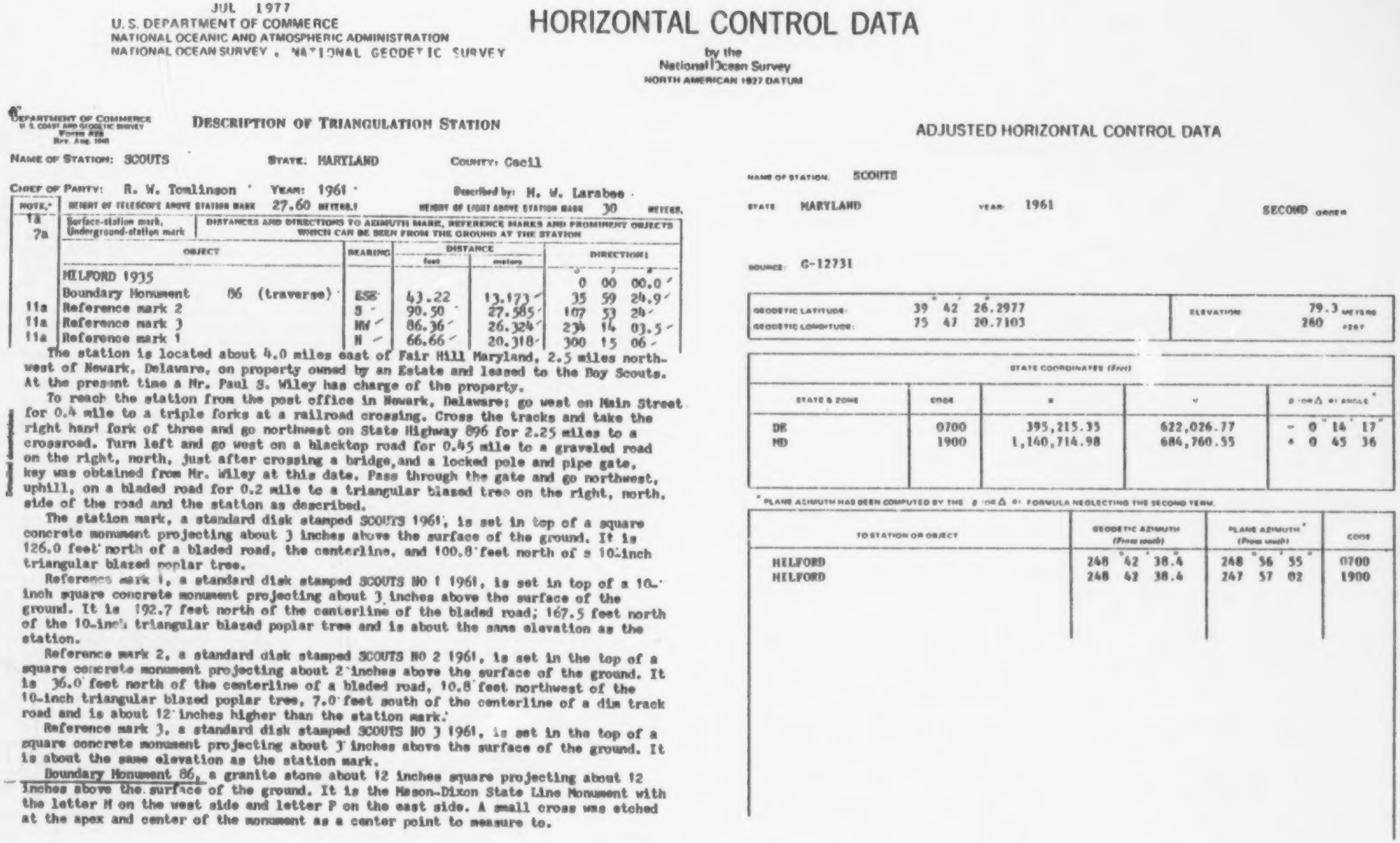
SOURCE G-12731

GEODETIC LATITUDE	39° 05′ 54.2358″	ELEVATION	17.6 METERS
GEODETIC LONGITUDE	75 44 39.9343		58 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	x	y	θ (OR Δ α) ANGLE*
DE	0700	406,975.64	400,189.13	- 0° 12′ 24″
MD	1900	1,156,330.55	463,163.01	+ 0 47 17

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	287° 23′ 42.4″	287° 36′ 06″	0700
AZIMUTH MARK	287 23 42.4	286 36 25	1900



JUL 1977
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HORIZONTAL CONTROL DATA

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National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SCOUTS STATE: MARYLAND COUNTY: Cecil

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: H. W. Larabee

NOTE.* 1a 7a HEIGHT OF TELESCOPE ABOVE STATION MARK 27.60 METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	MILFORD 1935				0 00 00.0
	Boundary Monument 86 (traverse)	ESE	43.22	13.173	35 59 24.9
11a	Reference mark 2	S	90.50	27.585	107 53 24
11a	Reference mark 3	NW	86.36	26.324	234 14 03.5
11a	Reference mark 1	N	66.66	20.318	300 15 06

The station is located about 4.0 miles east of Fair Hill Maryland, 2.5 miles northwest of Newark, Delaware, on property owned by an Estate and leased to the Boy Scouts. At the present time a Mr. Paul S. Wiley has charge of the property.

To reach the station from the post office in Newark, Delaware; go west on Main Street for 0.4 mile to a triple forks at a railroad crossing. Cross the tracks and take the right hand fork of three and go northwest on State Highway 896 for 2.25 miles to a crossroad. Turn left and go west on a blacktop road for 0.45 mile to a graveled road on the right, north, just after crossing a bridge, and a locked pole and pipe gate, key was obtained from Mr. Wiley at this date. Pass through the gate and go northwest, uphill, on a bladed road for 0.2 mile to a triangular blazed tree on the right, north, side of the road and the station as described.

The station mark, a standard disk stamped SCOUTS 1961, is set in top of a square concrete monument projecting about 3 inches above the surface of the ground. It is 126.0 feet north of a bladed road, the centerline, and 100.8 feet north of a 10-inch triangular blazed poplar tree.

Reference mark 1, a standard disk stamped SCOUTS NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 192.7 feet north of the centerline of the bladed road; 167.5 feet north of the 10-inch triangular blazed poplar tree and is about the same elevation as the station.

Reference mark 2, a standard disk stamped SCOUTS NO 2 1961, is set in the top of a square concrete monument projecting about 2 inches above the surface of the ground. It is 36.0 feet north of the centerline of a bladed road, 10.8 feet northwest of the 10-inch triangular blazed poplar tree, 7.0 feet south of the centerline of a dim track road and is about 12 inches higher than the station mark.

Reference mark 3, a standard disk stamped SCOUTS NO 3 1961, is set in the top of a square concrete monument projecting about 3 inches above the surface of the ground. It is about the same elevation as the station mark.

Boundary Monument 86, a granite stone about 12 inches square projecting about 12 inches above the surface of the ground. It is the Mason-Dixon State Line Monument with the letter M on the west side and letter P on the east side. A small cross was etched at the apex and center of the monument as a center point to measure to.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SCOUTS

STATE: MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731

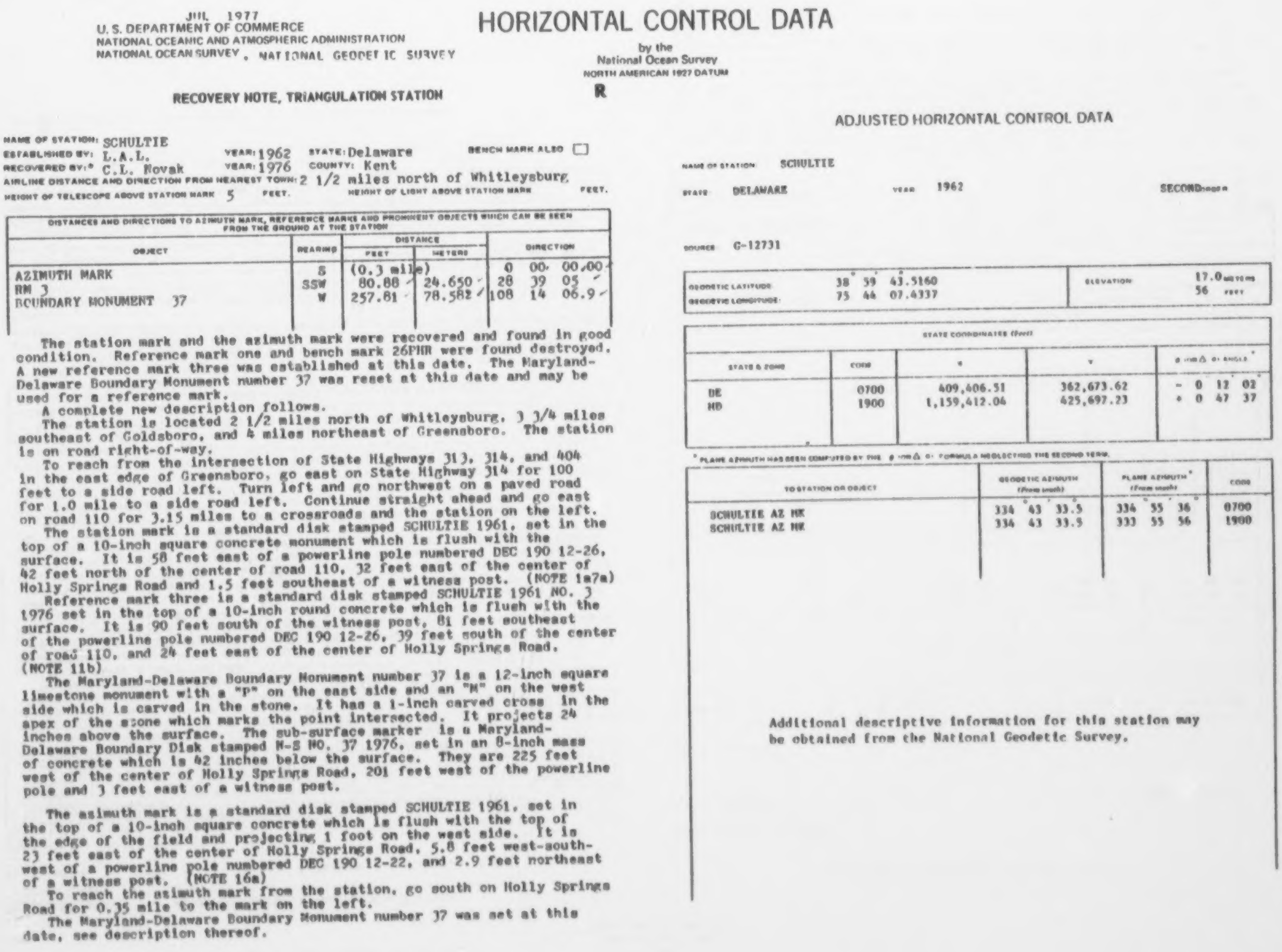
GEODETIC LATITUDE:	39° 42′ 26.2977″	ELEVATION:	79.3 METERS
GEODETIC LONGITUDE:	75 47 20.7103		260 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ (OR Δα) ANGLE*
DE	0700	395,215.35	622,026.77	− 0° 14′ 17″
MD	1900	1,140,714.98	684,760.55	+ 0 45 36

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
MILFORD	248° 42′ 38.4″	248° 56′ 55″	0700
MILFORD	248 42 38.4	247 57 02	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA
by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM
R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: SCHULTIE
ESTABLISHED BY: L.A.L. YEAR: 1962 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Kent
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 1/2 miles north of Whitleysburg
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	S	(0.3 mile)		0 00 00.00
RM 3	SSW	80.88	24.650	28 39 05
BOUNDARY MONUMENT 37	W	257.81	78.582	108 14 06.9

The station mark and the azimuth mark were recovered and found in good condition. Reference mark one and bench mark 26PHR were found destroyed. A new reference mark three was established at this date. The Maryland-Delaware Boundary Monument number 37 was reset at this date and may be used for a reference mark.

A complete new description follows.

The station is located 2 1/2 miles north of Whitleysburg, 3 3/4 miles southeast of Goldsboro, and 4 miles northeast of Greensboro. The station is on road right-of-way.

To reach from the intersection of State Highways 313, 314, and 404 in the east edge of Greensboro, go east on State Highway 314 for 100 feet to a side road left. Turn left and go northwest on a paved road for 1.0 mile to a side road left. Continue straight ahead and go east on road 110 for 3.15 miles to a crossroads and the station on the left.

The station mark is a standard disk stamped SCHULTIE 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 58 feet east of a powerline pole numbered DEC 190 12-26, 42 feet north of the center of road 110, 32 feet east of the center of Holly Springs Road and 1.5 feet southeast of a witness post. (NOTE 1a7a)

Reference mark three is a standard disk stamped SCHULTIE 1961 NO. 3 1976 set in the top of a 10-inch round concrete which is flush with the surface. It is 90 feet south of the witness post, 81 feet southeast of the powerline pole numbered DEC 190 12-26, 39 feet south of the center of road 110, and 24 feet east of the center of Holly Springs Road. (NOTE 11b)

The Maryland-Delaware Boundary Monument number 37 is a 12-inch square limestone monument with a "P" on the east side and an "M" on the west side which is carved in the stone. It has a 1-inch carved cross in the apex of the stone which marks the point intersected. It projects 24 inches above the surface. The sub-surface marker is a Maryland-Delaware Boundary Disk stamped M-S NO. 37 1976, set in an 8-inch mass of concrete which is 42 inches below the surface. They are 225 feet west of the center of Holly Springs Road, 201 feet west of the powerline pole and 3 feet east of a witness post.

The azimuth mark is a standard disk stamped SCHULTIE 1961, set in the top of a 10-inch square concrete which is flush with the top of the edge of the field and projecting 1 foot on the west side. It is 23 feet east of the center of Holly Springs Road, 5.8 feet west-southwest of a powerline pole numbered DEC 190 12-22, and 2.9 feet northeast of a witness post. (NOTE 16a)

To reach the azimuth mark from the station, go south on Holly Springs Road for 0.35 mile to the mark on the left.

The Maryland-Delaware Boundary Monument number 37 was set at this date, see description thereof.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SCHULTIE
STATE DELAWARE YEAR 1962 SECOND ORDER
SOURCE G-12731

GEODETIC LATITUDE	38° 39′ 43.5160″	ELEVATION	17.0 METERS
GEODETIC LONGITUDE	75 44 07.4337		56 FEET

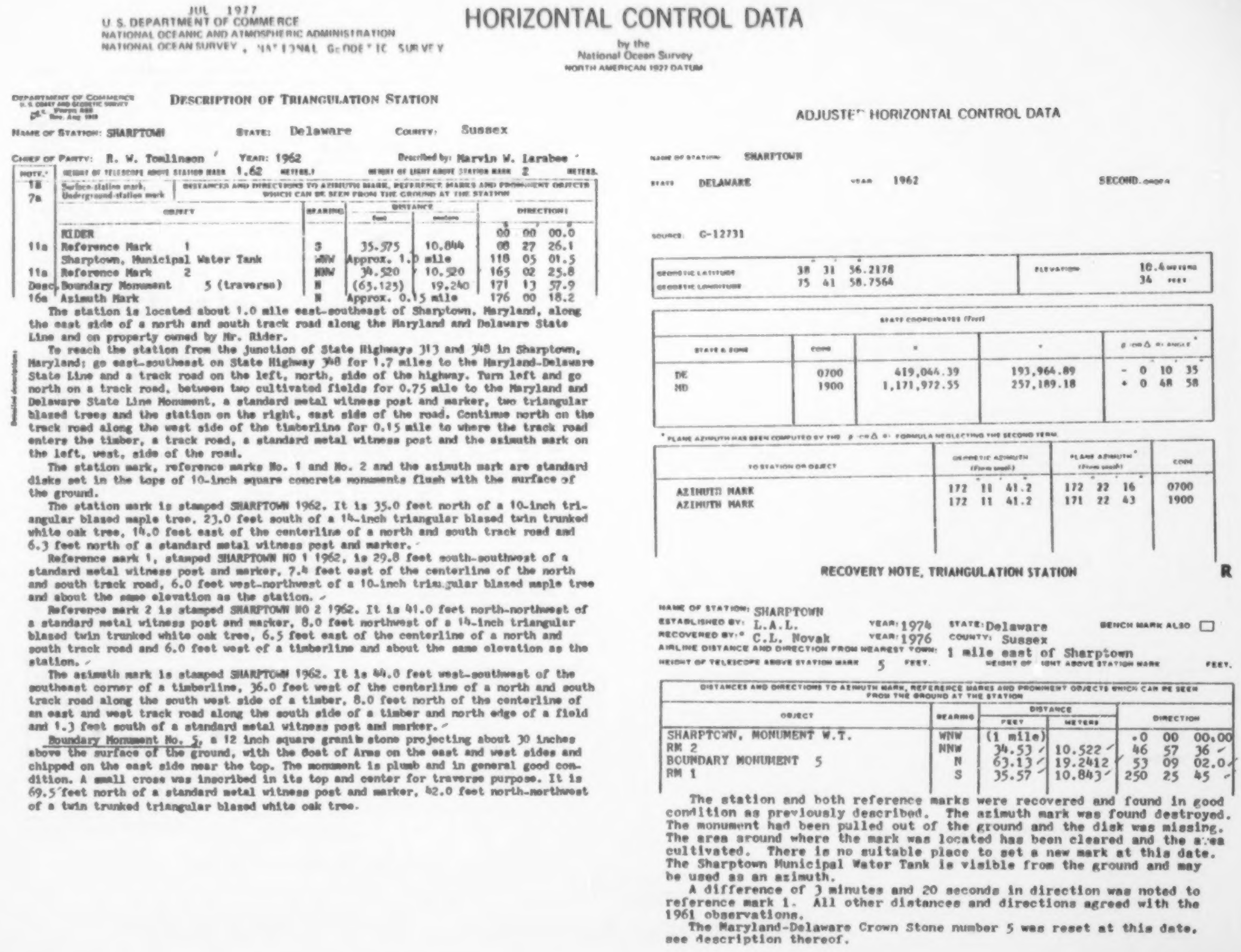
STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ OR Δα OR ANGLE*
DE	0700	409,406.51	362,673.62	− 0 12′ 02″
MD	1900	1,159,412.04	425,697.23	+ 0 47 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα OR FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
SCHULTIE AZ MK	334° 43′ 33.5″	334° 55′ 36″	0700
SCHULTIE AZ MK	334 43 33.5	333 55 56	1900

Additional descriptive information for this station may be obtained from the National Geodetic Survey.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SHARPTOWN STATE: Delaware COUNTY: Sussex

CHIEF OF PARTY: R. W. Tomlinson ′ YEAR: 1962 Described by: Marvin W. Larabee ′

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.62 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE.* 1B Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	RIDER				00	00	00.0
11a	Reference Mark 1	S	35.575	10.844	08	27	26.1
	Sharptown, Municipal Water Tank	WNW	Approx. 1.0 mile		118	05	01.5
11a	Reference Mark 2	NNW	34.520	10.520	165	02	25.8
Desc.	Boundary Monument 5 (traverse)	N	(63.125)	19.240	171	13	57.9
16a	Azimuth Mark	N	Approx. 0.15 mile		176	00	18.2

The station is located about 1.0 mile east-southeast of Sharptown, Maryland, along the east side of a north and south track road along the Maryland and Delaware State Line and on property owned by Mr. Rider.

To reach the station from the junction of State Highways 313 and 348 in Sharptown, Maryland; go east-southeast on State Highway 348 for 1.7 miles to the Maryland-Delaware State Line and a track road on the left, north, side of the highway. Turn left and go north on a track road, between two cultivated fields for 0.75 mile to the Maryland and Delaware State Line Monument, a standard metal witness post and marker, two triangular blazed trees and the station on the right, east side of the road. Continue north on the track road along the west side of the timberline for 0.15 mile to where the track road enters the timber, a track road, a standard metal witness post and the azimuth mark on the left, west, side of the road.

The station mark, reference marks No. 1 and No. 2 and the azimuth mark are standard disks set in the tops of 10-inch square concrete monuments flush with the surface of the ground.

The station mark is stamped SHARPTOWN 1962. It is 35.0 feet north of a 10-inch triangular blazed maple tree, 23.0 feet south of a 14-inch triangular blazed twin trunked white oak tree, 14.0 feet east of the centerline of a north and south track road and 6.3 feet north of a standard metal witness post and marker.

Reference mark 1, stamped SHARPTOWN NO 1 1962, is 29.8 feet south-southwest of a standard metal witness post and marker, 7.4 feet east of the centerline of the north and south track road, 6.0 feet west-northwest of a 10-inch triangular blazed maple tree and about the same elevation as the station.

Reference mark 2 is stamped SHARPTOWN NO 2 1962. It is 41.0 feet north-northwest of a standard metal witness post and marker, 8.0 feet northwest of a 14-inch triangular blazed twin trunked white oak tree, 6.5 feet east of the centerline of a north and south track road and 6.0 feet west of a timberline and about the same elevation as the station.

The azimuth mark is stamped SHARPTOWN 1962. It is 44.0 feet west-southwest of the southeast corner of a timberline, 36.0 feet west of the centerline of a north and south track road along the south west side of a timber, 8.0 feet north of the centerline of an east and west track road along the south side of a timber and north edge of a field and 1.3 feet south of a standard metal witness post and marker.

Boundary Monument No. 5, a 12 inch square granite stone projecting about 30 inches above the surface of the ground, with the Coat of Arms on the east and west sides and chipped on the east side near the top. The monument is plumb and in general good condition. A small cross was inscribed in its top and center for traverse purpose. It is 69.5′ feet north of a standard metal witness post and marker, 42.0 feet north-northwest of a twin trunked triangular blazed white oak tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SHARPTOWN

STATE DELAWARE YEAR 1962 SECOND ORDER

SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE	38	31	56.2178	ELEVATION	10.4 METERS
GEODETIC LONGITUDE	75	41	58.7564		34 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ or Δα ANGLE*
DE	0700	419,044.39	193,964.89	- 0 10 35
MD	1900	1,171,972.55	257,189.18	+ 0 48 58

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ or Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	172 11 41.2	172 22 16	0700
AZIMUTH MARK	172 11 41.2	171 22 43	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: SHARPTOWN
ESTABLISHED BY: L.A.L. YEAR: 1974 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY: Sussex
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile east of Sharptown
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

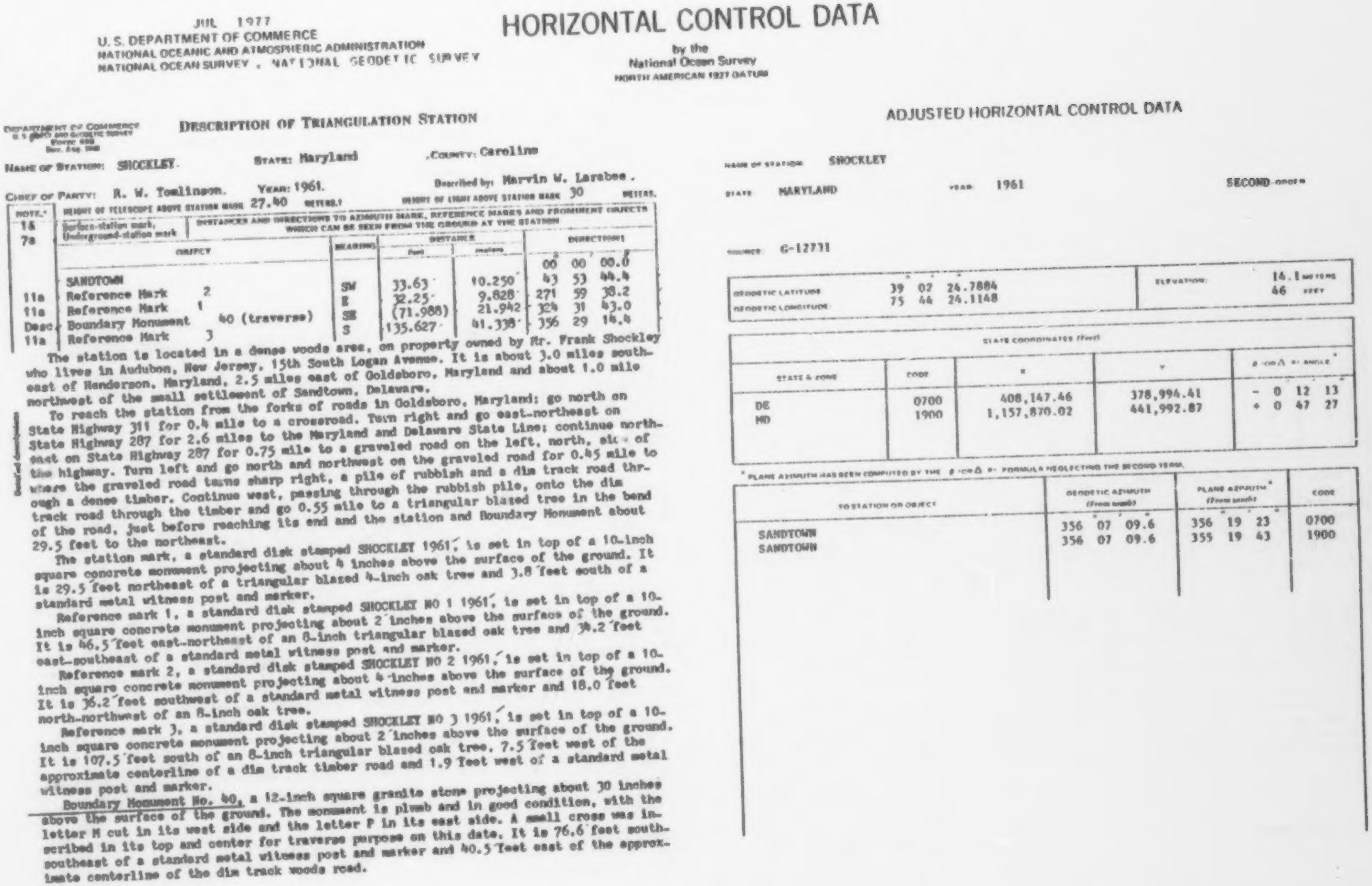
DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
SHARPTOWN, MONUMENT W.T.	WNW	(1 mile)		.0 00 00.00
RM 2	NNW	34.53 ′	10.522 ′	46 57 36 ′
BOUNDARY MONUMENT 5	N	63.13 ′	19.2412 ′	53 09 02.0 ′
RM 1	S	35.57 ′	10.843 ′	250 25 45 ′

The station and both reference marks were recovered and found in good condition as previously described. The azimuth mark was found destroyed. The monument had been pulled out of the ground and the disk was missing. The area around where the mark was located has been cleared and the area cultivated. There is no suitable place to set a new mark at this date. The Sharptown Municipal Water Tank is visible from the ground and may be used as an azimuth.

A difference of 3 minutes and 20 seconds in direction was noted to reference mark 1. All other distances and directions agreed with the 1961 observations.

The Maryland-Delaware Crown Stone number 5 was reset at this date, see description thereof.



JUL 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SHOCKLEY. STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson. YEAR: 1961. Described by: Marvin W. Larabee.

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.40 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

Surface-station mark, Underground-station mark: DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE Feet	DISTANCE Meters	DIRECTION °	′	″
1a 7a							
	SANDTOWN				00	00	00.0
11a	Reference Mark 2	SW	33.63	10.250	43	53	44.4
11a	Reference Mark 1	E	32.25	9.828	271	59	38.2
Desc	Boundary Monument 40 (traverse)	SE	(71.988)	21.942	324	31	43.0
11a	Reference Mark 3	S	135.627	41.338	356	29	14.4

The station is located in a dense woods area, on property owned by Mr. Frank Shockley who lives in Audubon, New Jersey, 15th South Logan Avenue. It is about 3.0 miles south-east of Henderson, Maryland, 2.5 miles east of Goldsboro, Maryland and about 1.0 mile northwest of the small settlement of Sandtown, Delaware.

To reach the station from the forks of roads in Goldsboro, Maryland; go north on State Highway 311 for 0.4 mile to a crossroad. Turn right and go east-northeast on State Highway 287 for 2.6 miles to the Maryland and Delaware State Line; continue north-east on State Highway 287 for 0.75 mile to a graveled road on the left, north, side of the highway. Turn left and go north and northwest on the graveled road for 0.45 mile to where the graveled road turns sharp right, a pile of rubbish and a dim track road through a dense timber. Continue west, passing through the rubbish pile, onto the dim track road through the timber and go 0.55 mile to a triangular blazed tree in the bend of the road, just before reaching its end and the station and Boundary Monument about 29.5 feet to the northeast.

The station mark, a standard disk stamped SHOCKLEY 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 29.5 feet northeast of a triangular blazed 4-inch oak tree and 3.8 feet south of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped SHOCKLEY NO 1 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 46.5 feet east-northeast of an 8-inch triangular blazed oak tree and 34.2 feet east-southeast of a standard metal witness post and marker.

Reference mark 2, a standard disk stamped SHOCKLEY NO 2 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 36.2 feet southwest of a standard metal witness post and marker and 18.0 feet north-northwest of an 8-inch oak tree.

Reference mark 3, a standard disk stamped SHOCKLEY NO 3 1961, is set in top of a 10-inch square concrete monument projecting about 2 inches above the surface of the ground. It is 107.5 feet south of an 8-inch triangular blazed oak tree, 7.5 feet west of the approximate centerline of a dim track timber road and 1.9 feet west of a standard metal witness post and marker.

Boundary Monument No. 40, a 12-inch square granite stone projecting about 30 inches above the surface of the ground. The monument is plumb and in good condition, with the letter M cut in its west side and the letter P in its east side. A small cross was inscribed in its top and center for traverse purpose on this date. It is 76.6 feet south-southeast of a standard metal witness post and marker and 40.5 feet east of the approximate centerline of the dim track woods road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SHOCKLEY

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

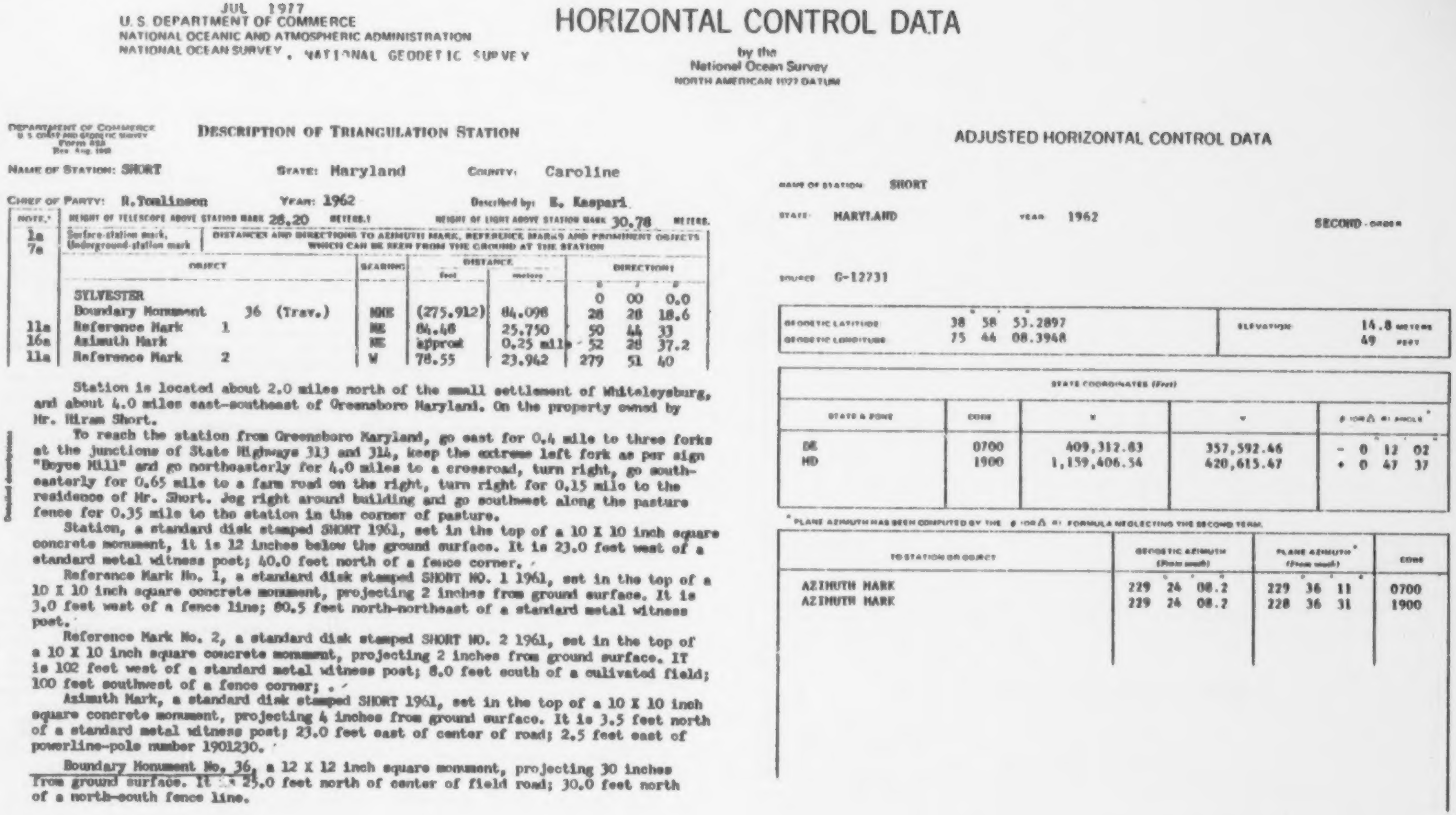
	°	′	″		
GEODETIC LATITUDE	39	02	24.7884	ELEVATION	14.1 METERS
GEODETIC LONGITUDE	75	44	24.1148		46 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE*
DE	0700	408,147.46	378,994.41	- 0 12 13
MD	1900	1,157,870.02	441,992.87	+ 0 47 27

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
SANDTOWN	356 07 09.6	356 19 23	0700
SANDTOWN	356 07 09.6	355 19 43	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SHORT STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.Tomlinson YEAR: 1962 Described by: E. Kaspari

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 28.20 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30.78 METERS.						
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE		DIRECTION		
			feet	meters	°	′	″
	SYLVESTER				0	00	0.0
	Boundary Monument 36 (Trav.)	NNE	(275.912)	84.098	28	28	18.6
11a	Reference Mark 1	NE	84.48	25.750	50	44	33
16a	Azimuth Mark	NE	approx	0.25 mile	52	28	37.2
11a	Reference Mark 2	W	78.55	23.942	279	51	40

Detailed description

Station is located about 2.0 miles north of the small settlement of Whiteleysburg, and about 4.0 miles east-southeast of Greensboro Maryland. On the property owned by Mr. Hiram Short.

To reach the station from Greensboro Maryland, go east for 0.4 mile to three forks at the junctions of State Highways 313 and 314, keep the extreme left fork as per sign "Boyce Mill" and go northeasterly for 4.0 miles to a crossroad, turn right, go southeasterly for 0.65 mile to a farm road on the right, turn right for 0.15 mile to the residence of Mr. Short. Jog right around building and go southwest along the pasture fence for 0.35 mile to the station in the corner of pasture.

Station, a standard disk stamped SHORT 1961, set in the top of a 10 X 10 inch square concrete monument, it is 12 inches below the ground surface. It is 23.0 feet west of a standard metal witness post; 40.0 feet north of a fence corner.

Reference Mark No. 1, a standard disk stamped SHORT NO. 1 1961, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inches from ground surface. It is 3.0 feet west of a fence line; 80.5 feet north-northeast of a standard metal witness post.

Reference Mark No. 2, a standard disk stamped SHORT NO. 2 1961, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inches from ground surface. IT is 102 feet west of a standard metal witness post; 8.0 feet south of a culivated field; 100 feet southwest of a fence corner; .

Azimuth Mark, a standard disk stamped SHORT 1961, set in the top of a 10 X 10 inch square concrete monument, projecting 4 inches from ground surface. It is 3.5 feet north of a standard metal witness post; 23.0 feet east of center of road; 2.5 feet east of powerline-pole number 1901230.

Boundary Monument No. 36, a 12 X 12 inch square monument, projecting 30 inches from ground surface. It is 25.0 feet north of center of field road; 30.0 feet north of a north-south fence line.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SHORT

STATE MARYLAND YEAR 1962 SECOND - ORDER

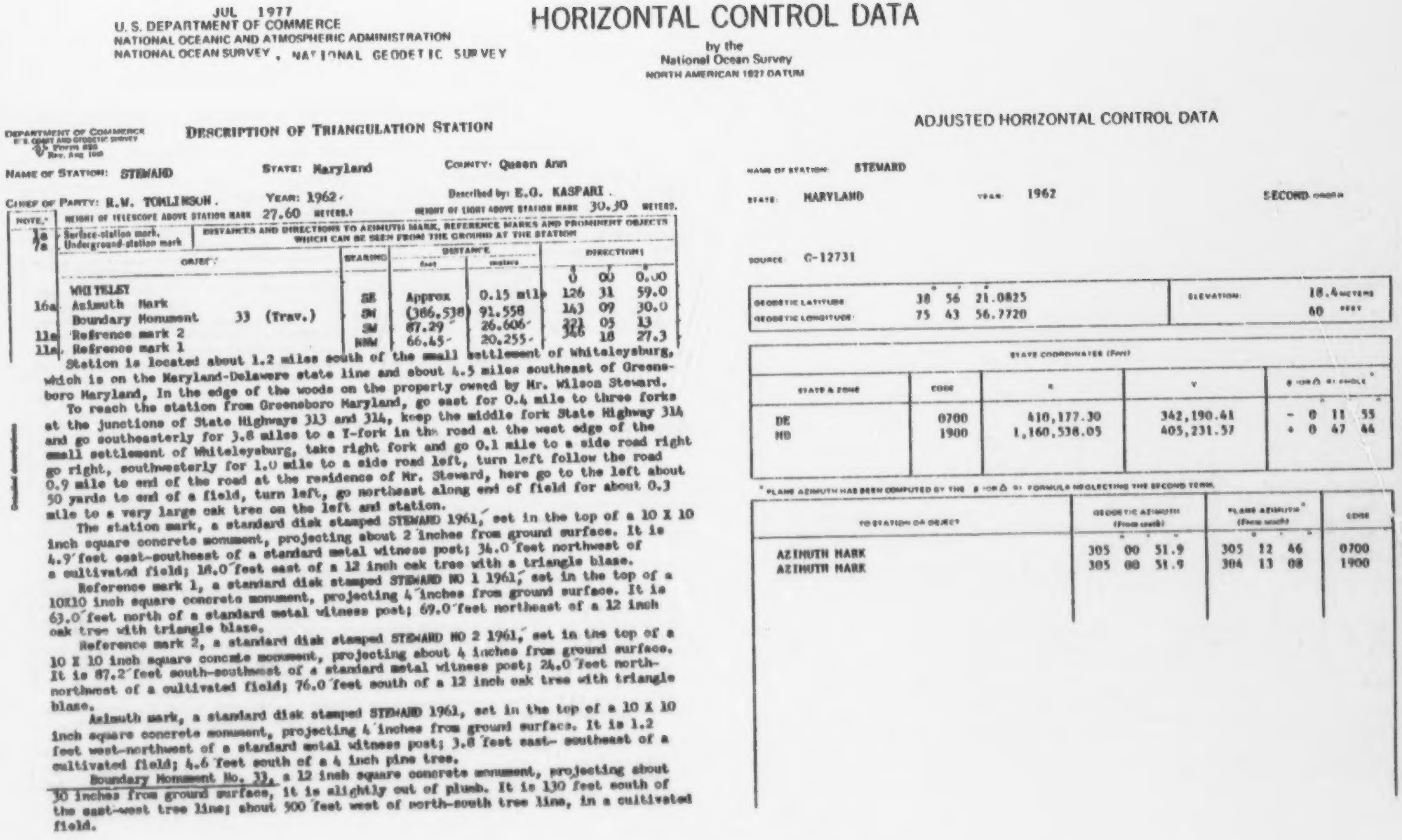
SOURCE G-12731

	°	′	″		
GEODETIC LATITUDE	38	58	53.2897	ELEVATION	14.8 METERS
GEODETIC LONGITUDE	75	44	08.3948		49 FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* °	′	″
DE	0700	409,312.83	357,592.46	- 0	12	02
MD	1900	1,159,406.54	420,615.47	+ 0	47	37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
AZIMUTH MARK	229	24	08.2	229	36	11	0700
AZIMUTH MARK	229	24	08.2	228	36	31	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: STEWARD STATE: Maryland COUNTY: Queen Ann

CHIEF OF PARTY: R.W. TOMLINSON. YEAR: 1962. Described by: E.G. KASPARI.

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 27.60 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 30.30 METERS.						
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	WHITELEY				0	00	0.00
16a	Azimuth Mark	SE	Approx	0.15 mil	126	31	59.0
	Boundary Monument 33 (Trav.)	SW	(386.538)	91.558	143	07	30.0
11a	Refrence mark 2	SW	87.29	26.606	321	05	13
11a	Refrence mark 1	NNW	66.45	20.255	346	18	27.3

Station is located about 1.2 miles south of the small settlement of Whiteleysburg, which is on the Maryland-Delaware state line and about 4.5 miles southeast of Greene- boro Maryland, In the edge of the woods on the property owned by Mr. Wilson Steward.

To reach the station from Greensboro Maryland, go east for 0.4 mile to three forks at the junctions of State Highways 313 and 314, keep the middle fork State Highway 314 and go southeasterly for 3.8 miles to a Y-fork in the road at the west edge of the small settlement of Whiteleysburg, take right fork and go 0.1 mile to a side road right go right, southwesterly for 1.0 mile to a side road left, turn left follow the road 0.9 mile to end of the road at the residence of Mr. Steward, here go to the left about 50 yards to end of a field, turn left, go northeast along end of field for about 0.3 mile to a very large oak tree on the left and station.

The station mark, a standard disk stamped STEWARD 1961, set in the top of a 10 X 10 inch square concrete monument, projecting about 2 inches from ground surface. It is 4.9 feet east-southeast of a standard metal witness post; 34.0 feet northwest of a cultivated field; 18.0 feet east of a 12 inch oak tree with a triangle blaze.

Reference mark 1, a standard disk stamped STEWARD NO 1 1961, set in the top of a 10X10 inch square concrete monument, projecting 4 inches from ground surface. It is 63.0 feet north of a standard metal witness post; 69.0 feet northeast of a 12 inch oak tree with triangle blaze.

Reference mark 2, a standard disk stamped STEWARD NO 2 1961, set in the top of a 10 X 10 inch square concrete monument, projecting about 4 inches from ground surface. It is 87.2 feet south-southwest of a standard metal witness post; 24.0 feet north- northwest of a cultivated field; 76.0 feet south of a 12 inch oak tree with triangle blaze.

Azimuth mark, a standard disk stamped STEWARD 1961, set in the top of a 10 X 10 inch square concrete monument, projecting 4 inches from ground surface. It is 1.2 feet west-northwest of a standard metal witness post; 3.8 feet east- southeast of a cultivated field; 4.6 feet south of a 4 inch pine tree.

Boundary Monument No. 33, a 12 inch square concrete monument, projecting about 30 inches from ground surface, it is slightly out of plumb. It is 130 feet south of the east-west tree line; about 500 feet west of north-south tree line, in a cultivated field.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: STEWARD

STATE: MARYLAND YEAR: 1962 SECOND ORDER

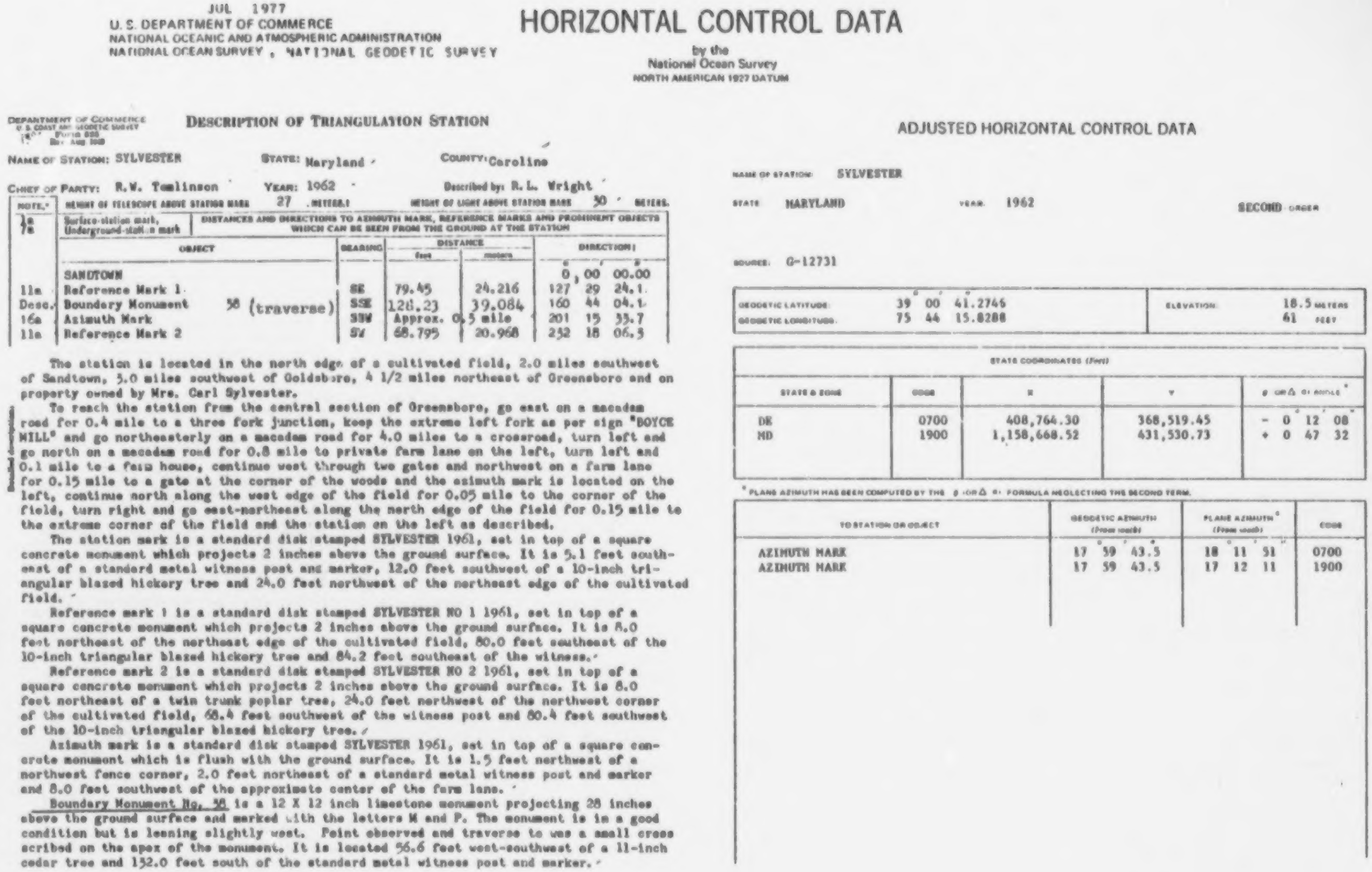
SOURCE: G-12731

	°	′	″		
GEODETIC LATITUDE	38	56	21.0825	ELEVATION:	18.4 METERS
GEODETIC LONGITUDE	75	43	56.7720		60 FEET

STATE COORDINATES (Feet)						
STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE* °	′	″
DE	0700	410,177.30	342,190.41	- 0	11	55
MD	1900	1,160,538.05	405,231.57	+ 0	47	44

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
AZIMUTH MARK	305	00	51.9	305	12	46	0700
AZIMUTH MARK	305	00	51.9	304	13	08	1900



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form [illegible]
Rev. Aug [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SYLVESTER STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: R. L. Wright

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 27 METERS				HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	SANDTOWN				0 00 00.00
11a	Reference Mark 1	SE	79.45	24.216	127 29 24.1
Desc.	Boundary Monument 58 (traverse)	SSE	128.23	39.084	160 44 04.1
16a	Azimuth Mark	SSW	Approx. 0.5 mile		201 15 33.7
11a	Reference Mark 2	SW	68.795	20.968	252 18 06.3

The station is located in the north edge of a cultivated field, 2.0 miles southwest of Sandtown, 3.0 miles southwest of Goldsboro, 4 1/2 miles northeast of Greensboro and on property owned by Mrs. Carl Sylvester.

To reach the station from the central section of Greensboro, go east on a macadam road for 0.4 mile to a three fork junction, keep the extreme left fork as per sign "BOYCE MILL" and go northeasterly on a macadam road for 4.0 miles to a crossroad, turn left and go north on a macadam road for 0.8 mile to private farm lane on the left, turn left and 0.1 mile to a farm house, continue west through two gates and northwest on a farm lane for 0.15 mile to a gate at the corner of the woods and the azimuth mark is located on the left, continue north along the west edge of the field for 0.05 mile to the corner of the field, turn right and go east-northeast along the north edge of the field for 0.15 mile to the extreme corner of the field and the station on the left as described.

The station mark is a standard disk stamped SYLVESTER 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 5.1 feet southeast of a standard metal witness post and marker, 12.0 feet southwest of a 10-inch triangular blazed hickory tree and 24.0 feet northwest of the northeast edge of the cultivated field.

Reference mark 1 is a standard disk stamped SYLVESTER NO 1 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 8.0 feet northeast of the northeast edge of the cultivated field, 80.0 feet southeast of the 10-inch triangular blazed hickory tree and 84.2 feet southeast of the witness.

Reference mark 2 is a standard disk stamped SYLVESTER NO 2 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 8.0 feet northeast of a twin trunk poplar tree, 24.0 feet northwest of the northwest corner of the cultivated field, 68.4 feet southwest of the witness post and 80.4 feet southwest of the 10-inch triangular blazed hickory tree.

Azimuth mark is a standard disk stamped SYLVESTER 1961, set in top of a square concrete monument which is flush with the ground surface. It is 1.5 feet northwest of a northwest fence corner, 2.0 feet northeast of a standard metal witness post and marker and 8.0 feet southwest of the approximate center of the farm lane.

Boundary Monument No. 58 is a 12 X 12 inch limestone monument projecting 28 inches above the ground surface and marked with the letters M and P. The monument is in a good condition but is leaning slightly west. Point observed and traverse to was a small cross scribed on the apex of the monument. It is located 56.6 feet west-southwest of a 11-inch cedar tree and 132.0 feet south of the standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: SYLVESTER

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 00′ 41.2746″	ELEVATION:	18.5 METERS
GEODETIC LONGITUDE:	75 44 15.8288		61 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	408,764.30	368,519.45	− 0° 12′ 08″
MD	1900	1,158,668.52	431,530.73	+ 0 47 32

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	17° 59′ 43.5″	18° 11′ 51″	0700
AZIMUTH MARK	17 59 43.5	17 12 11	1900

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: SZELESTEI STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R.W. Tomlinson. YEAR: 1961. Described by: Richard L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 27.43 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 29.88 METERS.

NOTE.* 1a Surface-station mark, 7a Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION ° ′ ″
	WALMSLEY				0 00 00.00
11a	Reference Mark 1	N	78.61	23.961	03 45 18.7
11a	Reference Mark 3	E	313.04	95.415	85 22 35.8
11a	Reference Mark 2	SE	85.80	26.152	158 32 17.1
Desc.	Boundary Monument 49 (traverse)	WNW	80.80	24.629	295 00 16.9

The station is located in dense woods and very swampy land, 2.0 miles west of Hartly, Delaware, 2 1/2 miles north-northeast of Templeville, Maryland and on property owned by Mr. Steve Szelestei.

To reach the station from the junction of State Highway 44 and 11 in Hartly, go northwest on State Highway 44 for 1.55 miles to a crossroad's, turn left, go southwest on the main traveled road for 1.15 miles to a T-road junction, turn right for about 150 feet and then turn left across a cultivated field for about 150 feet to the east edge of the woods and a dim woods road, continue west on the woods road for 0.1 mile to the station as described.

The station mark is a standard disk stamped SZELESTEI 1961, set in top of a square concrete monument which projects about 2 inches above the ground surface. It is 8.1 feet south-southeast of a standard metal witness post and marker, 50.0 feet west-southwest of a four trunked oak tree and 45.0 feet east-southeast of a 12-inch triangular blazed maple tree.

Reference mark 1 is a standard disk stamped SZELESTEI NO 1 1961, set in top of a square concrete monument which projects 4 inches above the ground surface. It is 71.6 feet north-northeast of the witness post and 72.6 feet north-northwest of the four trunked oak tree.

Reference mark 2 is a standard disk stamped SZELESTEI NO 2 1961, set in top of a square concrete monument which projects 3 inches above the ground surface. It is 78.0 feet south-southeast of the four trunked oak tree and 93.2 feet southeast of the witness post.

Reference mark 3 is a standard disk stamped SZELESTEI NO 3 1961, set in top of a square concrete monument which projects 2 inches above the ground surface. It is 2.5 feet west of the witness post and 55.0 feet south of the approximate center of the woods road.

Boundary Monument No. 49 was recovered broken or eroded off with the top portion lying in a prone position. The remaining base is badly eroded. The top is in excellent condition. The point measured to and observed to was a cross mark scribed in the foundition of the monument. The foundition is located 55.0 feet west-northwest of a 12-inch triangular blazed maple tree and 74.6 feet west of a standard metal witness and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION SZELESTEI

STATE DELAWARE YEAR 1961 SECOND ORDER

SOURCE G-12731

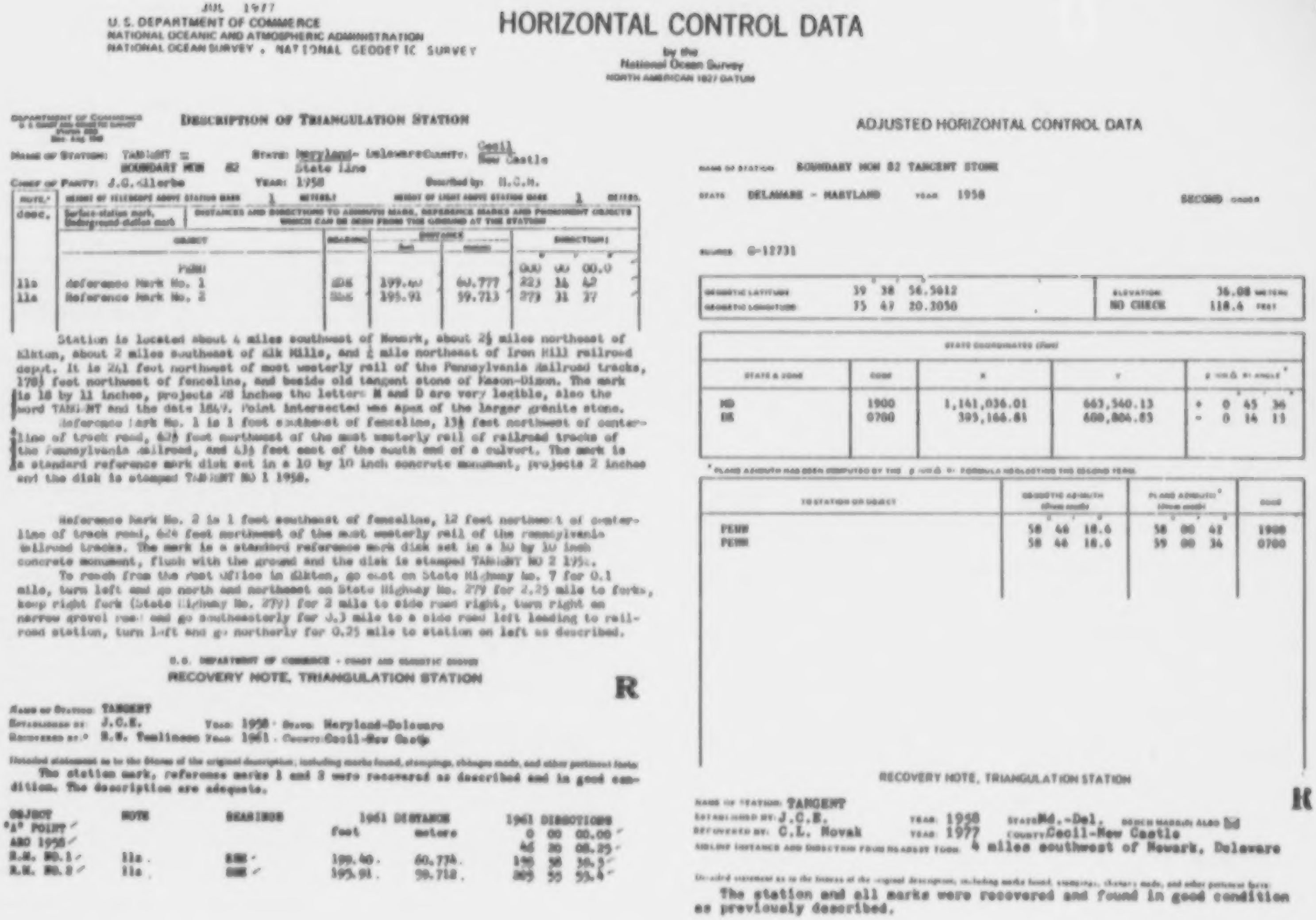
	° ′ ″		
GEODETIC LATITUDE	39 10 14.4693	ELEVATION	21.6 METERS
GEODETIC LONGITUDE	75 45 00.1625		71 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE* ° ′ ″
DE	0700	405,477.56	426,523.63	− 0 12 38
MD	1900	1,154,375.53	489,466.35	+ 0 47 04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ′ ″	PLANE AZIMUTH* (From south) ° ′ ″	CODE
WALMSLEY	174 57 59.4	175 10 37	0700
WALMSLEY	174 57 59.4	174 10 55	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: TANGENT = BOUNDARY MON 82
State: Maryland- Delaware County: Cecil New Castle State line
Chief of Party: J.G.Gilorbe Year: 1958 Described by: H.C.M.

Note	Object	Bearing	Distance feet	Distance meters	Direction
	PENN				0 00 00.0
11a	Reference Mark No. 1	ENE	199.40	60.777	223 36 42
11a	Reference Mark No. 2	SSE	195.91	59.713	273 31 37

Station is located about 4 miles southwest of Newark, about 2½ miles northeast of Elkton, about 2 miles southeast of Elk Mills, and ¼ mile northeast of Iron Hill railroad depot. It is 241 feet northwest of most westerly rail of the Pennsylvania Railroad tracks, 178½ feet northwest of fenceline, and beside old tangent stone of Mason-Dixon. The mark is 18 by 11 inches, projects 28 inches the letters M and D are very legible, also the word TANGENT and the date 1849. Point intersected was apex of the larger granite stone.

Reference Mark No. 1 is 1 foot southwest of fenceline, 13½ feet northwest of centerline of track road, 62½ feet northwest of the most westerly rail of railroad tracks of the Pennsylvania Railroad, and 43½ feet east of the south end of a culvert. The mark is a standard reference mark disk set in a 10 by 10 inch concrete monument, projects 2 inches and the disk is stamped TANGENT NO 1 1958.

Reference Mark No. 2 is 1 foot southeast of fenceline, 12 feet northwest of centerline of track road, 64 feet northwest of the most westerly rail of the Pennsylvania Railroad tracks. The mark is a standard reference mark disk set in a 10 by 10 inch concrete monument, flush with the ground and the disk is stamped TANGENT NO 2 1958.

To reach from the Post Office in Elkton, go east on State Highway No. 7 for 0.1 mile, turn left and go north and northeast on State Highway No. 279 for 2.25 mile to forks, keep right fork (State Highway No. 279) for 2 mile to side road right, turn right on narrow gravel road and go southeasterly for 0.3 mile to a side road left leading to railroad station, turn left and go northerly for 0.25 mile to station on left as described.

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
RECOVERY NOTE, TRIANGULATION STATION

R

Name of Station: TANGENT
Established by: J.C.E. Year: 1958 State: Maryland-Delaware
Recovered by: R.W. Tomlinson Year: 1961 County: Cecil-New Castle

Detailed statement as to the fitness of the original description, including marks found, stampings, changes made, and other pertinent facts:
The station mark, reference marks 1 and 2 were recovered as described and in good condition. The description are adequate.

OBJECT	NOTE	BEARINGS	1961 DISTANCE feet	1961 DISTANCE meters	1961 DIRECTIONS
"A" POINT					0 00 00.00
ABD 1958					46 20 08.25
R.M. NO.1	11a	ENE	199.40	60.774	198 58 38.5
R.M. NO.2	11a	SSE	195.91	59.712	305 55 53.4

ADJUSTED HORIZONTAL CONTROL DATA

Name of Station: BOUNDARY MON 82 TANGENT STONE
State: DELAWARE - MARYLAND Year: 1958 SECOND Order

Source: G-12731

Geodetic Latitude	39 38 56.5612	Elevation	36.08 meters
Geodetic Longitude	75 47 20.2050	NO CHECK	118.4 feet

State Coordinates (feet)

State & Zone	Code	X	Y	θ or Δα angle*
MD	1900	1,141,036.01	663,560.13	+ 0 45 36
DE	0700	395,166.81	600,804.83	- 0 14 13

* Plane azimuth has been computed by the θ or Δα formula neglecting the second term.

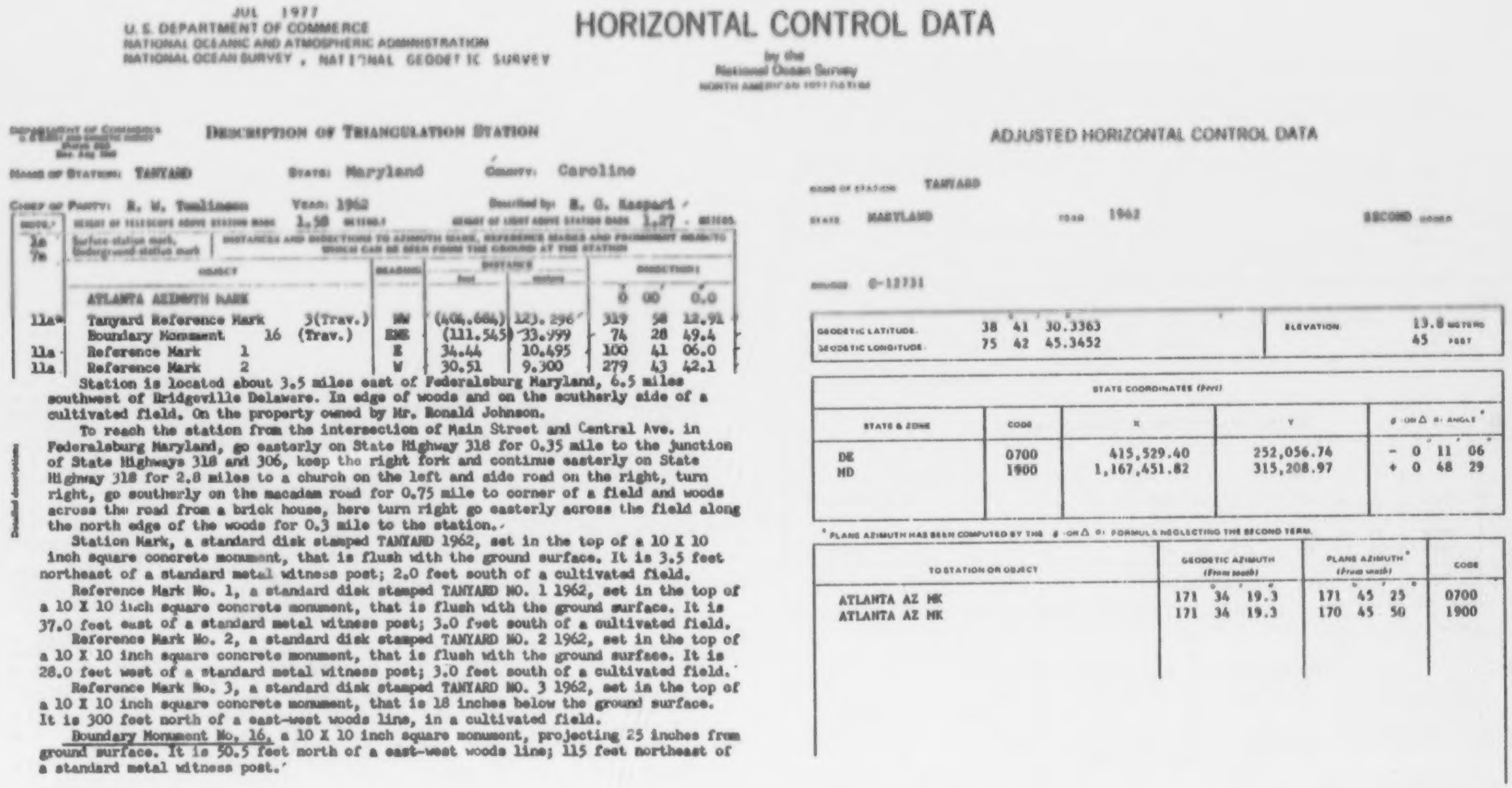
To station or object	Geodetic azimuth (from south)	Plane azimuth* (from south)	Code
PENN	58 46 18.6	58 00 42	1900
PENN	58 46 18.6	59 00 34	0700

RECOVERY NOTE, TRIANGULATION STATION

R

Name of station: TANGENT
Established by: J.C.E. Year: 1958 State: Md.-Del.
Recovered by: C.L. Novak Year: 1977 County: Cecil-New Castle
Airline distance and direction from nearest town: 4 miles southwest of Newark, Delaware

Detailed statement as to the fitness of the original description, including marks found, stampings, changes made, and other pertinent facts:
The station and all marks were recovered and found in good condition as previously described.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

Name of Station: TANYARD State: Maryland County: Caroline

Chief of Party: R. W. Tomlinson Year: 1962 Described by: R. G. Kaspari

Height of telescope above station mark 1.58 meters Height of light above station mark 1.27 meters

Surface station mark, Underground station mark: 1a, 7a

Note	Object	Bearing	Distance (feet)	Distance (meters)	Direction
	ATLANTA AZIMUTH MARK				0 00 0.0
11a*	Tanyard Reference Mark 3(Trav.)	NW	(404.664)	123.296	319 58 12.91
	Boundary Monument 16 (Trav.)	ENE	(111.545)	33.999	74 28 49.4
11a	Reference Mark 1	E	34.44	10.495	100 41 06.0
11a	Reference Mark 2	W	30.51	9.300	279 43 42.1

Detailed description

Station is located about 3.5 miles east of Federalsburg Maryland, 6.5 miles southwest of Bridgeville Delaware. In edge of woods and on the southerly side of a cultivated field. On the property owned by Mr. Ronald Johnson.

To reach the station from the intersection of Main Street and Central Ave. in Federalsburg Maryland, go easterly on State Highway 318 for 0.35 mile to the junction of State Highways 318 and 306, keep the right fork and continue easterly on State Highway 318 for 2.8 miles to a church on the left and side road on the right, turn right, go southerly on the macadam road for 0.75 mile to corner of a field and woods across the road from a brick house, here turn right go easterly across the field along the north edge of the woods for 0.3 mile to the station.

Station Mark, a standard disk stamped TANYARD 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 3.5 feet northeast of a standard metal witness post; 2.0 feet south of a cultivated field.

Reference Mark No. 1, a standard disk stamped TANYARD NO. 1 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 37.0 feet east of a standard metal witness post; 3.0 feet south of a cultivated field.

Reference Mark No. 2, a standard disk stamped TANYARD NO. 2 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 28.0 feet west of a standard metal witness post; 3.0 feet south of a cultivated field.

Reference Mark No. 3, a standard disk stamped TANYARD NO. 3 1962, set in the top of a 10 X 10 inch square concrete monument, that is 18 inches below the ground surface. It is 300 feet north of a east-west woods line, in a cultivated field.

Boundary Monument No. 16, a 10 X 10 inch square monument, projecting 25 inches from ground surface. It is 50.5 feet north of a east-west woods line; 115 feet northeast of a standard metal witness post.

ADJUSTED HORIZONTAL CONTROL DATA

Name of Station TANYARD

State MARYLAND Year 1962 SECOND order

[illegible] G-12731

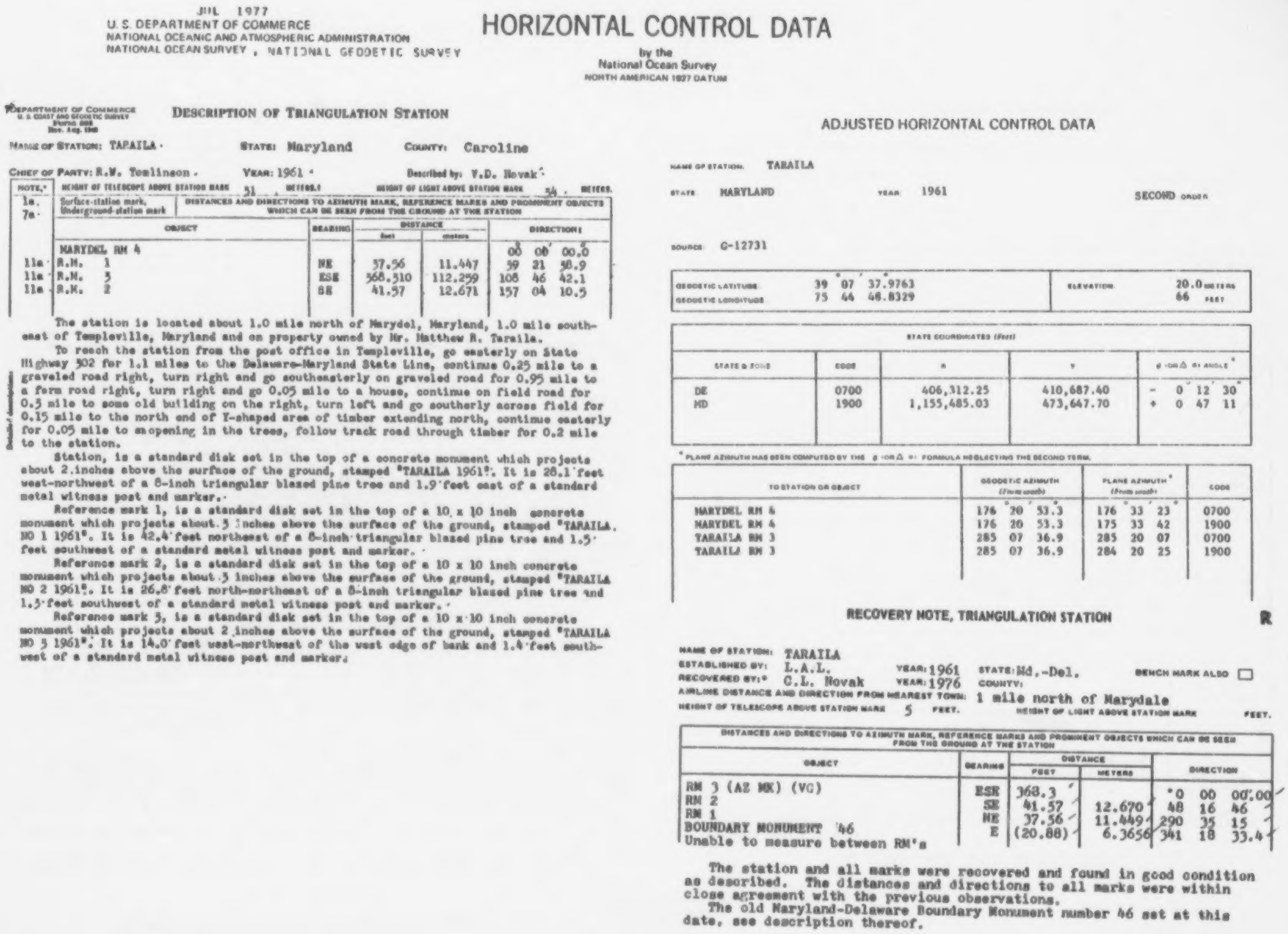
GEODETIC LATITUDE	38° 41′ 30.3363″	ELEVATION	13.8 meters
GEODETIC LONGITUDE	75° 42′ 45.3452″		45 feet

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ or Δ α: ANGLE*
DE	0700	415,529.40	252,056.74	− 0° 11′ 06″
MD	1900	1,167,451.82	315,208.97	+ 0 48 29

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
ATLANTA AZ MK	171° 34′ 19.3″	171° 45′ 25″	0700
ATLANTA AZ MK	171 34 19.3	170 45 50	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1940

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TARAILA · STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson · YEAR: 1961 · Described by: V.D. Novak

NOTE:* HEIGHT OF TELESCOPE ABOVE STATION MARK 51 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 54 METERS.

1a. 7a. Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	MARYDEL RM 4				00° 00′ 00.0″
11a	R.M. 1	NE	37.56	11.447	59 21 58.9
11a	R.M. 3	ESE	368.310	112.259	108 46 42.1
11a	R.M. 2	SE	41.57	12.671	157 04 10.5

The station is located about 1.0 mile north of Marydel, Maryland, 1.0 mile southeast of Templeville, Maryland and on property owned by Mr. Matthew R. Taraila.

To reach the station from the post office in Templeville, go easterly on State Highway 302 for 1.1 miles to the Delaware-Maryland State Line, continue 0.25 mile to a graveled road right, turn right and go southeasterly on graveled road for 0.95 mile to a farm road right, turn right and go 0.05 mile to a house, continue on field road for 0.5 mile to some old building on the right, turn left and go southerly across field for 0.15 mile to the north end of Y-shaped area of timber extending north, continue easterly for 0.05 mile to an opening in the trees, follow track road through timber for 0.2 mile to the station.

Station, is a standard disk set in the top of a concrete monument which projects about 2 inches above the surface of the ground, stamped "TARAILA 1961". It is 28.1 feet west-northwest of a 8-inch triangular blazed pine tree and 1.9 feet east of a standard metal witness post and marker.

Reference mark 1, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped "TARAILA NO 1 1961". It is 42.4 feet northeast of a 8-inch triangular blazed pine tree and 1.5 feet southwest of a standard metal witness post and marker.

Reference mark 2, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 3 inches above the surface of the ground, stamped "TARAILA NO 2 1961". It is 26.8 feet north-northeast of a 8-inch triangular blazed pine tree and 1.5 feet southwest of a standard metal witness post and marker.

Reference mark 3, is a standard disk set in the top of a 10 x 10 inch concrete monument which projects about 2 inches above the surface of the ground, stamped "TARAILA NO 3 1961". It is 14.0 feet west-northwest of the west edge of bank and 1.4 feet southwest of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TARAILA

STATE: MARYLAND YEAR: 1961 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE	39° 07′ 37.9763″	ELEVATION	20.0 METERS
GEODETIC LONGITUDE	75 44 48.8329		66 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δ α) ANGLE*
DE	0700	406,312.25	410,687.40	− 0° 12′ 30″
MD	1900	1,155,485.03	473,647.70	+ 0 47 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
MARYDEL RM 4	176° 20′ 53.3″	176° 33′ 23″	0700
MARYDEL RM 4	176 20 53.3	175 33 42	1900
TARAILA RM 3	285 07 36.9	285 20 07	0700
TARAILA RM 3	285 07 36.9	284 20 25	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: TARAILA
ESTABLISHED BY: L.A.L. YEAR: 1961 STATE: Md.-Del. BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1976 COUNTY:
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1 mile north of Marydale
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3 (AZ MK) (VC)	ESE	368.3		°0 00 00.00
RM 2	SE	41.57	12.670	48 16 46
RM 1	NE	37.56	11.449	290 35 15
BOUNDARY MONUMENT 46	E	(20.88)	6.3656	341 18 33.4
Unable to measure between RM's				

The station and all marks were recovered and found in good condition as described. The distances and directions to all marks were within close agreement with the previous observations.

The old Maryland-Delaware Boundary Monument number 46 set at this date, see description thereof.

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug [illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TOWN STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.50 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
1a 7a	Surface-station mark, Underground-station mark				
	TARAILA				00 00 00.00
11a	Reference mark 1	NE	82.03	25.001	55 09 25.9
Desc.	Boundary Monument 45 (traverse)	SE	(91.224)	27.805	125 50 16.6
Desc.	Reference mark 2	NW	37.42	11.405	299 47 07.9
16b	Azimuth Mark	NNW	Approx. 0.25 mile		320 02 55.12

The station is located in the town of Marydel, about 100 yards east-northeast of the Railroad Station and on State owned property. It is 61.0 feet east-southeast of the centerline of the intersection of State Highway 454 and across the street, 30.6 feet north-northeast of the centerline of State Highway 454 and 5.3 feet east-southeast of a standard metal witness post and marker.

A ~~new~~ to reach the station is necessary.

To reach the azimuth mark from the station; go west on State Highway 454 for 0.25 mile to a standard metal witness post and marker, a metal 24-inch culvert under State Highway 454 and the azimuth mark as described.

The station mark, a standard disk stamped TOWN 1961, is set in the top of a 10-inch square concrete monument flush with the surface of the ground.

Reference mark 1, a standard disk stamped TOWN NO 1 1961, is set in the top of a 10-inch square concrete monument flush with the surface of the ground. It is 82.1 feet northeast of a standard metal witness post and marker, 42.2 feet east of the northwest fence corner, 42.6 feet south of the southwest side of a house, 16.2 feet east of a powerline pole, 14.5 feet south of a fenceline and about the same elevation as the station.

Reference mark 2, a standard disk stamped TOWN NO 2 1961, is set in a drill hole in the top of a 10-foot long and 8-inch wide concrete headwall of a 24-inch round concrete culvert under State Highway 454. It is about 1.0 feet above the station, 34.0 feet west-northwest of a standard metal witness post and marker and 52.0 feet northeast of the center of the intersection of State Highway 454 and across the street.

The azimuth mark, a standard disk stamped TOWN 1961, is set in the top of a 12-inch concrete cylinder flush with the surface of the ground. It is 25.4 feet northeast of the centerline of State Highway 454 and 11.0 feet south-southeast of the center of a 24-inch metal culvert under State Highway 454 and 9.2 feet south-southwest of a standard metal witness post and marker.

Boundary Monument No. 45, is a 12-inch square limestone monument projecting about 30 inches above the surface of the ground. It has the Coat of Arms on the east and west sides. The monument is upright and in good condition. It is 92.6 feet east-southeast of a standard metal witness post and marker.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION TOWN

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

GEODETIC LATITUDE	39 06 45.2572	ELEVATION	22.0 METERS
GEODETIC LONGITUDE	75 44 45.2516		72 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE*
DE	0700	406,575.14	405,352.62	− 0 12 28
MD	1900	1,155,840.49	460,318.53	+ 0 47 14

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
TOWN AZ MK	137 01 11.0	137 13 39	0700
TOWN AZ MK	137 01 11.0	136 13 57	1900

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: TOWN
ESTABLISHED BY: R.L.T. YEAR: 1961 STATE: Maryland BENCH MARK ALSO ☐
RECOVERED BY:* J.C. Bull YEAR: 1968 COUNTY: Caroline
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: at Marydel
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark	NW	approx.,	0.25 mi.	00 00 00
Reference Mark 1	NE	82.02	25.000	73 06 21
Boundary Monument 45 (new loc)	E	71.67	21.8460	140 26 32.4
POINT B	SE	85.21	25.9727	163 45 11.4
Reference Mark 2	NW	37.42	11.406	339 44 19

Station was recovered as described and all marks were found to be in good condition. The distance and direction to the reference marks was checked and found to be correct.

The station was occupied at this time for the purpose of relocating Delaware-Maryland Boundary Monument number 45. The local civic club requested that the boundary monument, which had been replaced, should be placed on the state line and also further away from the highway to insure preserving mark. A difference was found in the distance and direction to monument.

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

Department of Commerce [illegible]

DESCRIPTION OF TRIANGULATION STATION

Name of Station: TOWNSEND State: MARYLAND County: Cecil

Chief of Party: R.W.Tomlinson Year: 1961 Described by: V.D. Novak

Note		Bearing	Distance Feet	Distance Meters	Direction
1a 7a	Height of telescope above station mark 1 meters. Height of light above station mark 1 meters. Surface-station mark, Underground-station mark				
	Distances and directions to azimuth mark, reference marks and prominent objects which can be seen from the ground at the station				
	Object				
	COLDWELL				00 00 00.00
16b	Azimuth mark (The azimuth mark was Observed and Geodimeter to.)	N		555.914	180 55 20.34
11b	R.M. 1	NE	50.57	15.413	225 52 35.2
11b	R.M. 2	SE	48.65	14.829	315 58 40.2

The station is located about 4.0 miles west of Townsend Delaware, 2.0 miles northeast of Sassafras Maryland. On property owned by Mr. R.B. Carter who gave permission.

To reach the station from the Rehoboth Church in the small village of Sassafras Maryland, go easterly on the main road for 2.15 miles to a side road left about 50 yards before reaching a cross road, turn sharp left and go northerly on State Line Road for 1.45 miles to the station on the left.

The station, is a standard disk set in the top of a 10 x 10 inch concrete monument which is about 14 inches below the surface of the ground, stamped "TOWNSEND 1961". It is 45.8 feet southwest of a 24-inch triangular blazed poplar tree, 32.5 feet west of standard metal witness post and marker and 16.8 feet west of the approximate center of a asphalt road.

Reference mark 1, is a standard disk set in the top of a concrete cylinder which is flush with the surface of the ground, stamped "TOWNSEND NO 1 1961". It is 55.0 feet north of a standard metal witness post and marker, 20.0 feet east of the approximate center of a asphalt road and 7.0 feet north of a 24-inch triangular blazed poplar tree.

Reference mark 2, is a standard disk set in the top of concrete cylinder which is flush with the surface of the ground, stamped "TOWNSEND NO 2 1961". It is 62.5 feet south of a 24-inch triangular blazed poplar tree, 37.6 feet south of a standard metal witness post and marker and 16.7 feet east of the approximate center of a asphalt road.

The azimuth mark, is a standard disk set in the top of a concrete cylinder which is flush with the surface of the ground, stamped "TOWNSEND 1961". It is 74.0 feet east of a fence corner, 56.0 feet north-northeast of the approximate center of a T-intersection and 3.0 feet south of a fence line.

Note: The azimuth mark was observed and a Geodimeter Traverse was made to station COLDWELL 1651.353 meters, TOWNSEND Azimuth Mark is 555.914 meters.

BOUNDARY MONUMENT NO. #64 was searched for but not found.

ADJUSTED HORIZONTAL CONTROL DATA

Name of station TOWNSEND

State MARYLAND Year 1961 SECOND order

Source G-12731

Geodetic latitude	39° 23′ 18.0894″	Elevation	18.6 meters
Geodetic longitude	75 46 04.0730		61 feet

State coordinates (feet)				
State & zone	Code	X	Y	θ (MD-Δ) or angle*
DE	0700	400,751.70	505,826.13	- 0 13 22
MD	1900	1,148,272.39	568,672.34	+ 0 46 34

* Plane azimuth has been computed by the θ (MD-Δ) or formula neglecting the second term

To station or object	Geodetic azimuth (From south)	Plane azimuth* (From south)	Code
TOWNSEND AZ MK	177° 22′ 19.4″	177° 35′ 42″	0700
TOWNSEND AZ MK	177 22 19.4	176 35 55	1900

RECOVERY NOTE, TRIANGULATION STATION

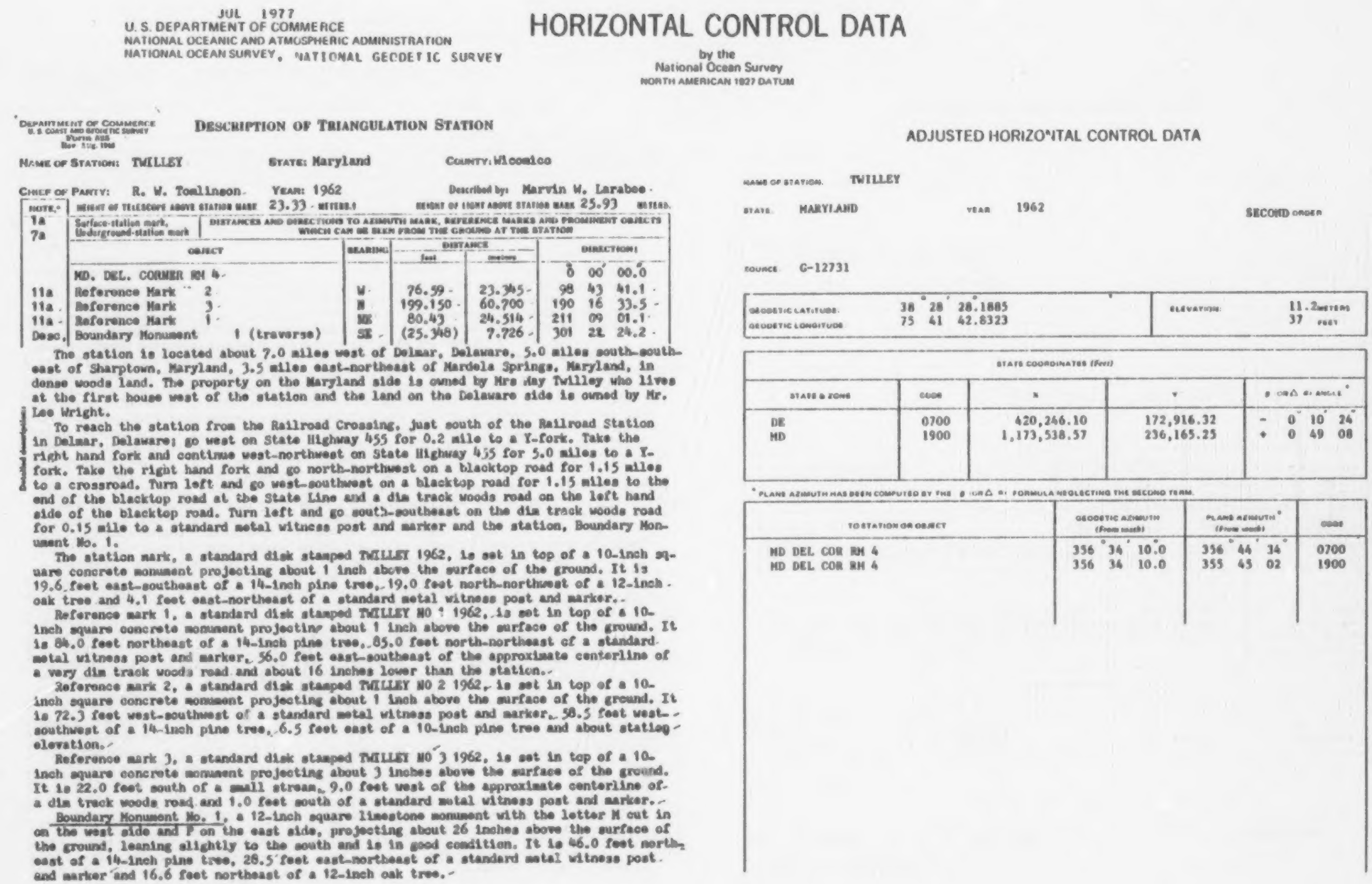
R

Name of station: TOWNSEND
Established by: L.A.L. Year: 1961 State: MARYLAND Bench mark also ☐
Recovered by: C.L. Novak Year: 1976 County: Cecil
Airline distance and direction from nearest town: 4 miles west of Townsend
Height of telescope above station mark 5 feet. Height of light above station mark feet.

Distances and directions to azimuth mark, reference marks and prominent objects which can be seen from the ground at the station				
Object	Bearing	Distance Feet	Distance Meters	Direction
RM 1	NE	50.58	15.418	0 00 00.00
RM 2	SE	48.65	14.828	90 07 30
BOUNDARY MONUMENT 64	S	(699.36)	213.164	134 34 38.4

The station and both reference marks were recovered and found in good condition as previously described. The azimuth mark was destroyed as previously reported. No new azimuth mark was established at this date.

The Maryland-Delaware Boundary Monument numbered 64 was set at this date, see description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: TWILLEY STATE: Maryland COUNTY: Wicomico

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1962 Described by: Marvin W. Larabee

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 23.33 METERS.		HEIGHT OF LIGHT ABOVE STATION MARK 25.93 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION			
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION
	MD. DEL. CORNER RM 4				0° 00′ 00.0″
11a	Reference Mark 2	W	76.59	23.345	98 43 41.1
11a	Reference Mark 3	N	199.150	60.700	190 16 33.5
11a	Reference Mark 1	NE	80.43	24.514	211 09 01.1
Desc.	Boundary Monument 1 (traverse)	SE	(25.348)	7.726	301 22 24.2

The station is located about 7.0 miles west of Delmar, Delaware, 5.0 miles south-southeast of Sharptown, Maryland, 3.5 miles east-northeast of Mardela Springs, Maryland, in dense woods land. The property on the Maryland side is owned by Mrs Amy Twilley who lives at the first house west of the station and the land on the Delaware side is owned by Mr. Lee Wright.

To reach the station from the Railroad Crossing, just south of the Railroad Station in Delmar, Delaware; go west on State Highway 455 for 0.2 mile to a Y-fork. Take the right hand fork and continue west-northwest on State Highway 455 for 5.0 miles to a Y-fork. Take the right hand fork and go north-northwest on a blacktop road for 1.15 miles to a crossroad. Turn left and go west-southwest on a blacktop road for 1.15 miles to the end of the blacktop road at the State Line and a dim track woods road on the left hand side of the blacktop road. Turn left and go south-southeast on the dim track woods road for 0.15 mile to a standard metal witness post and marker and the station, Boundary Monument No. 1.

The station mark, a standard disk stamped TWILLEY 1962, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 19.6 feet east-southeast of a 14-inch pine tree, 19.0 feet north-northwest of a 12-inch oak tree and 4.1 feet east-northeast of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped TWILLEY NO 1 1962, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 84.0 feet northeast of a 14-inch pine tree, 85.0 feet north-northeast of a standard metal witness post and marker, 56.0 feet east-southeast of the approximate centerline of a very dim track woods road and about 16 inches lower than the station.

Reference mark 2, a standard disk stamped TWILLEY NO 2 1962, is set in top of a 10-inch square concrete monument projecting about 1 inch above the surface of the ground. It is 72.3 feet west-southwest of a standard metal witness post and marker, 58.5 feet west-southwest of a 14-inch pine tree, 6.5 feet east of a 10-inch pine tree and about station elevation.

Reference mark 3, a standard disk stamped TWILLEY NO 3 1962, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 22.0 feet south of a small stream, 9.0 feet west of the approximate centerline of a dim track woods road and 1.0 feet south of a standard metal witness post and marker.

Boundary Monument No. 1, a 12-inch square limestone monument with the letter M cut in on the west side and P on the east side, projecting about 26 inches above the surface of the ground, leaning slightly to the south and is in good condition. It is 46.0 feet northeast of a 14-inch pine tree, 28.5 feet east-northeast of a standard metal witness post and marker and 16.6 feet northeast of a 12-inch oak tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: TWILLEY

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38° 28′ 28.1885″	ELEVATION:	11.2 METERS
GEODETIC LONGITUDE:	75 41 42.8323		37 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	420,246.10	172,916.32	− 0° 10′ 24″
MD	1900	1,173,538.57	236,165.25	+ 0 49 08

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
MD DEL COR RM 4	356° 34′ 10.0″	356° 44′ 34″	0700
MD DEL COR RM 4	356 34 10.0	355 45 02	1900

JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug 1960

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: VANEERDE STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R. W. Tomlinson YEAR: 1961 Described by: Marvin W. Larabee

NOTE.*	HEIGHT OF TELESCOPE ABOVE STATION MARK 1.83 METERS.				HEIGHT OF LIGHT ABOVE STATION MARK 2 METERS.		
1a 7a	Surface-station mark, Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION					
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	MILLPOND				0	00	00.0
	Boundary Monument 43 (traverse)	NW	(96.90)	29.535	143	22	50.82
11a	Reference Mark 1	NNE	38.06	11.600	203	38	52.0
11a	Reference Mark 2	SE	40.03	12.199	323	01	31.9
11a	Azimuth Mark	SSE	Approx. 0.2 mile		335	51	12.70

Detailed description

The station is located about 2.0 miles south of Marydel, Delaware, 1.5 miles northeast of Henderson, Maryland and on property owned by Mr. Wm E. Vaneerde.

To reach the station from the road south of the railroad station in Marydel; go south-southeast on a blacktop road for 1.0 mile to a fork. Take the right hand fork and go south on a graveled road for 1.0 mile to a T-road intersection. Turn right and go southwest on a graveled road for 0.4 mile to a farm house on the left and a field road on the right and the azimuth mark about 100.0 feet southwest of the field road entrance. Turn right and go north-northwest on the field road for 0.2 mile to an old building site, the boundary monument, a standard metal witness post and marker and the station.

The station mark, a standard disk stamped VANEERDE 1961, is set in top of a 10-inch square concrete monument which is about 18 inches below the surface of the ground. It is 100.0 feet west of an old building site, 24.8 feet north-northwest of a standard metal witness post and marker and 27.0 feet north-northwest of a 36-inch poplar tree.

Reference mark 1, a standard disk stamped VANEERDE NO 1 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 62.0 feet northeast of a 36-inch poplar tree, 59.0 feet northeast of a standard metal witness post and marker and about 12 inches above the station mark.

Reference mark 2, a standard disk stamped VANEERDE NO 2 1961, is set in too of a 10-inch square concrete monument flush with the surface of the ground. It is 20.0 feet south-southeast of a standard metal witness post and marker, 20.9 feet south-southeast of a 36-inch poplar tree and about 24 inches higher than the station.

The azimuth mark, a standard disk stamped VANEERDE 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 110.0 feet west of a field entrance, 28.0 feet north of the center of the intersection of a graveled driveway and graveled road, 14.0 feet west of an underground telephone line and 2.0 feet south of a standard metal witness post and marker.

Boundary Monument No. 43, a 12-inch square limestone monument projecting about 30 inches above the surface of the ground, upright and firmly set and in good condition. It has the letter M cut on the west side and the letter P on the east side. It is 121.0 feet north-northwest of a standard metal witness post and marker and 99.6 feet north-northwest of a 36-inch poplar tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION VANEERDE

STATE DELAWARE YEAR 1961 SECOND-ORDER

SOURCE G-12731

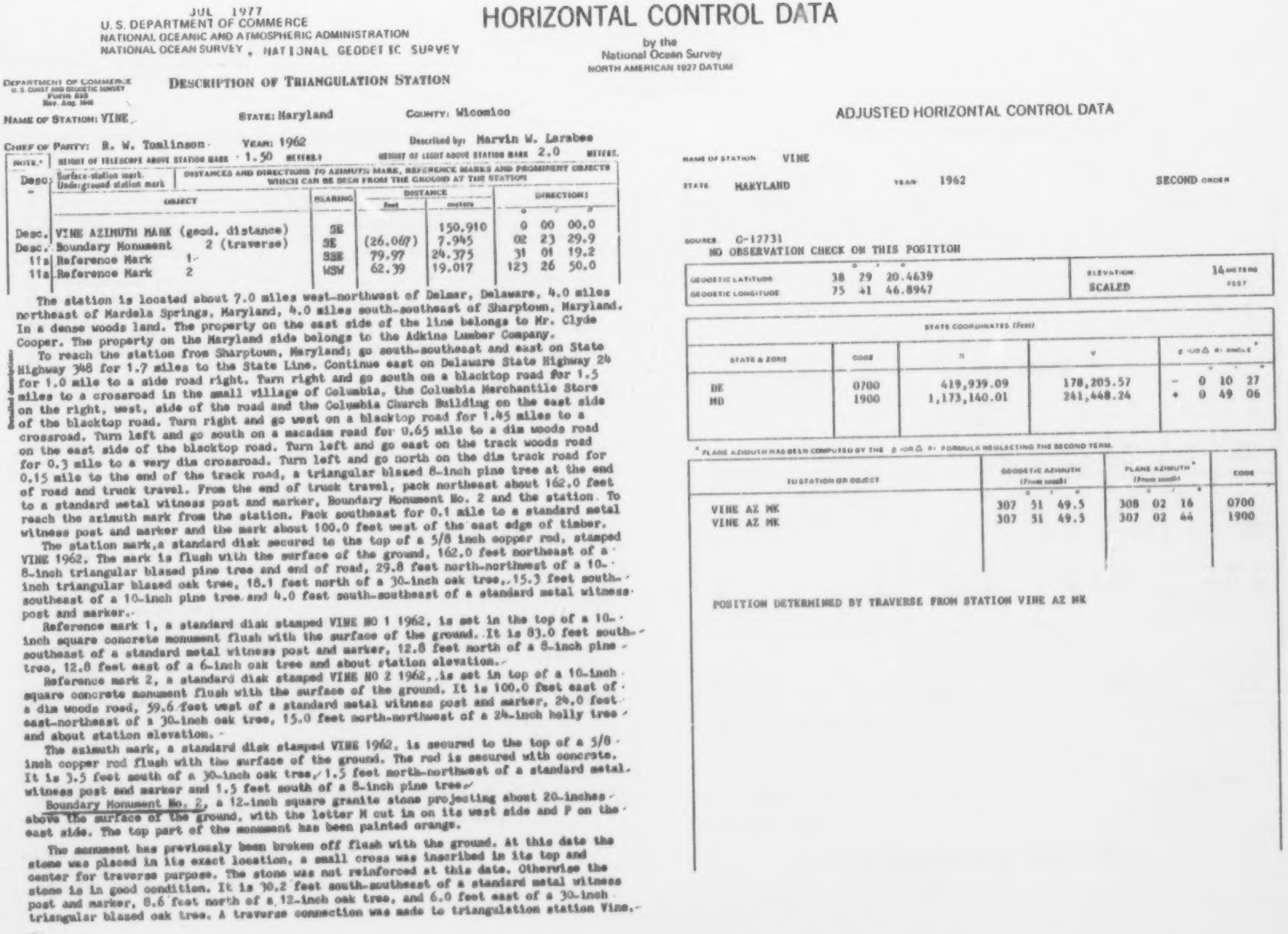
	° ′ ″		
GEODETIC LATITUDE	39 05 01.2888	ELEVATION	8.3 METERS
GEODETIC LONGITUDE	75 44 35.3330		27 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	407,319.16	394,831.04	− 0° 12′ 21″
MD	1900	1,156,767.01	457,811.95	+ 0 47 20

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
VANEERDE AZ MK	333° 09′ 50.2″	333° 22′ 11″	0700
VANEERDE AZ MK	333 09 50.2	332 22 30	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1946

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: VINE   STATE: Maryland   COUNTY: Wicomico

CHIEF OF PARTY: R. W. Tomlinson   YEAR: 1962   Described by: Marvin W. Larabee

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.50 METERS.   HEIGHT OF LIGHT ABOVE STATION MARK 2.0 METERS.

Desc: Surface-station mark. Underground station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
Desc.	VINE AZIMUTH MARK (geod. distance)	SE		150.910	0	00	00.0
Desc.	Boundary Monument 2 (traverse)	SE	(26.067)	7.945	02	23	29.9
11a	Reference Mark 1	SSE	79.97	24.375	31	01	19.2
11a	Reference Mark 2	WSW	62.39	19.017	123	26	50.0

The station is located about 7.0 miles west-northwest of Delmar, Delaware, 4.0 miles northeast of Mardela Springs, Maryland, 4.0 miles south-southeast of Sharptown, Maryland. In a dense woods land. The property on the east side of the line belongs to Mr. Clyde Cooper. The property on the Maryland side belongs to the Adkins Lumber Company.

Detailed description

To reach the station from Sharptown, Maryland; go south-southeast and east on State Highway 348 for 1.7 miles to the State Line. Continue east on Delaware State Highway 24 for 1.0 mile to a side road right. Turn right and go south on a blacktop road for 1.5 miles to a crossroad in the small village of Columbia, the Columbia Merchantile Store on the right, west, side of the road and the Columbia Church Building on the east side of the blacktop road. Turn right and go west on a blacktop road for 1.45 miles to a crossroad. Turn left and go south on a macadam road for 0.65 mile to a dim woods road on the east side of the blacktop road. Turn left and go east on the track woods road for 0.3 mile to a very dim crossroad. Turn left and go north on the dim track road for 0.15 mile to the end of the track road, a triangular blazed 8-inch pine tree at the end of road and truck travel. From the end of truck travel, pack northeast about 162.0 feet to a standard metal witness post and marker, Boundary Monument No. 2 and the station. To reach the azimuth mark from the station. Pack southeast for 0.1 mile to a standard metal witness post and marker and the mark about 100.0 feet west of the east edge of timber.

The station mark, a standard disk secured to the top of a 5/8 inch copper rod, stamped VINE 1962. The mark is flush with the surface of the ground, 162.0 feet northeast of a 8-inch triangular blazed pine tree and end of road, 29.8 feet north-northwest of a 10-inch triangular blazed oak tree, 18.1 feet north of a 30-inch oak tree, 15.3 feet south-southeast of a 10-inch pine tree and 4.0 feet south-southeast of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped VINE NO 1 1962, is set in the top of a 10-inch square concrete monument flush with the surface of the ground. It is 83.0 feet south-southeast of a standard metal witness post and marker, 12.8 feet north of a 8-inch pine tree, 12.8 feet east of a 6-inch oak tree and about station elevation.

Reference mark 2, a standard disk stamped VINE NO 2 1962, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 100.0 feet east of a dim woods road, 59.6 feet west of a standard metal witness post and marker, 24.0 feet east-northeast of a 30-inch oak tree, 15.0 feet north-northwest of a 24-inch holly tree and about station elevation.

The azimuth mark, a standard disk stamped VINE 1962, is secured to the top of a 5/8 inch copper rod flush with the surface of the ground. The rod is secured with concrete. It is 3.5 feet south of a 30-inch oak tree, 1.5 feet north-northwest of a standard metal witness post and marker and 1.5 feet south of a 8-inch pine tree.

Boundary Monument No. 2, a 12-inch square granite stone projecting about 20-inches above the surface of the ground, with the letter M cut in on its west side and P on the east side. The top part of the monument has been painted orange.

The monument has previously been broken off flush with the ground. At this date the stone was placed in its exact location, a small cross was inscribed in its top and center for traverse purpose. The stone was not reinforced at this date. Otherwise the stone is in good condition. It is 30.2 feet south-southeast of a standard metal witness post and marker, 8.6 feet north of a 12-inch oak tree, and 6.0 feet east of a 30-inch triangular blazed oak tree. A traverse connection was made to triangulation station Vine.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION VINE

STATE MARYLAND   YEAR 1962   SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE	38	29	20.4639	ELEVATION	14 METERS
GEODETIC LONGITUDE	75	41	46.8947	SCALED	FEET

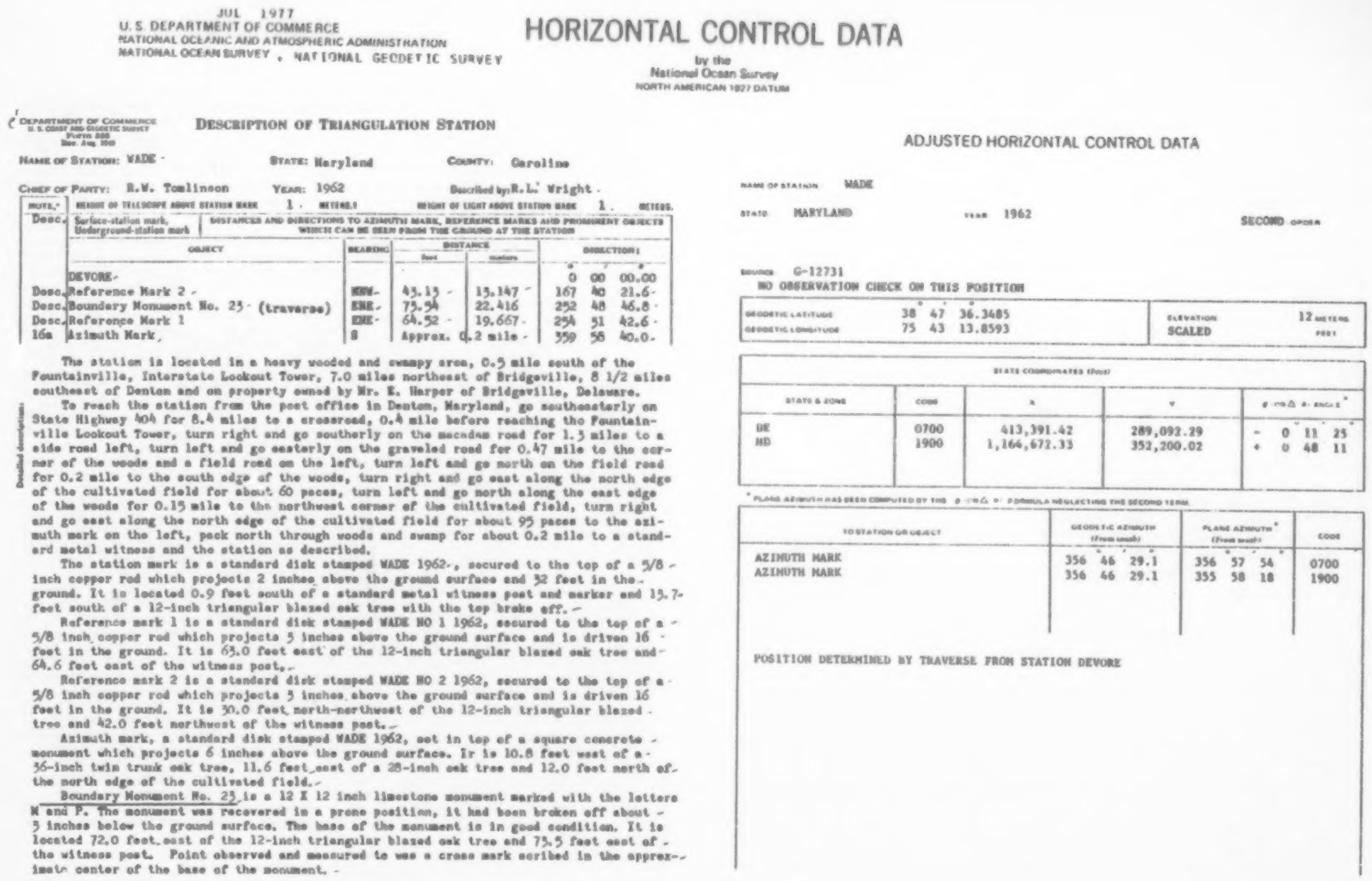
STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (or Δα) ANGLE* °	′	″
DE	0700	419,939.09	178,205.57	- 0	10	27
MD	1900	1,173,140.01	241,448.24	+ 0	49	06

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (or Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
VINE AZ MK	307	51	49.5	308	02	16	0700
VINE AZ MK	307	51	49.5	307	02	44	1900

POSITION DETERMINED BY TRAVERSE FROM STATION VINE AZ MK



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
[illegible]
[illegible]

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WADE · STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: R.L. Wright ·

NOTE.* HEIGHT OF TELESCOPE ABOVE STATION MARK 1 · METERS.† HEIGHT OF LIGHT ABOVE STATION MARK 1 . METERS.

Desc.	Surface-station mark, Underground-station mark						
	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
	DEVORE ·				0	00	00.00
Desc.	Reference Mark 2 ·	NNW ·	43.13 ·	13.147 ·	167	40	21.6 ·
Desc.	Boundary Monument No. 23 · (traverse)	ENE ·	73.54	22.416	252	48	46.8 ·
Desc.	Reference Mark 1	ENE ·	64.52 ·	19.667 ·	254	51	42.6 ·
16a	Azimuth Mark,	S	Approx. 0.2 mile ·		359	58	40.0 ·

Detailed description:

The station is located in a heavy wooded and swampy area, 0.5 mile south of the Fountainville, Interstate Lookout Tower, 7.0 miles northeast of Bridgeville, 8 1/2 miles southeast of Denton and on property owned by Mr. E. Harper of Bridgeville, Delaware.

To reach the station from the post office in Denton, Maryland, go southeasterly on State Highway 404 for 8.4 miles to a crossroad, 0.4 mile before reaching the Fountainville Lookout Tower, turn right and go southerly on the macadam road for 1.3 miles to a side road left, turn left and go easterly on the graveled road for 0.47 mile to the corner of the woods and a field road on the left, turn left and go north on the field road for 0.2 mile to the south edge of the woods, turn right and go east along the north edge of the cultivated field for about 60 paces, turn left and go north along the east edge of the woods for 0.15 mile to the northwest corner of the cultivated field, turn right and go east along the north edge of the cultivated field for about 95 paces to the azimuth mark on the left, pack north through woods and swamp for about 0.2 mile to a standard metal witness and the station as described.

The station mark is a standard disk stamped WADE 1962·, secured to the top of a 5/8 · inch copper rod which projects 2 inches above the ground surface and 32 feet in the · ground. It is located 0.9 feet south of a standard metal witness post and marker and 13.7· feet south of a 12-inch triangular blazed oak tree with the top broke off. ·

Reference mark 1 is a standard disk stamped WADE NO 1 1962, secured to the top of a · 5/8 inch copper rod which projects 5 inches above the ground surface and is driven 16 · feet in the ground. It is 63.0 feet east of the 12-inch triangular blazed oak tree and · 64.6 feet east of the witness post. ·

Reference mark 2 is a standard disk stamped WADE NO 2 1962, secured to the top of a · 5/8 inch copper rod which projects 5 inches above the ground surface and is driven 16 feet in the ground. It is 30.0 feet north-northwest of the 12-inch triangular blazed · tree and 42.0 feet northwest of the witness post. ·

Azimuth mark, a standard disk stamped WADE 1962, set in top of a square concrete · monument which projects 6 inches above the ground surface. Ir is 10.8 feet west of a · 36-inch twin trunk oak tree, 11.6 feet east of a 28-inch oak tree and 12.0 feet north of · the north edge of the cultivated field. ·

Boundary Monument No. 23 is a 12 X 12 inch limestone monument marked with the letters M and P. The monument was recovered in a prone position, it had been broken off about · 3 inches below the ground surface. The base of the monument is in good condition. It is located 72.0 feet east of the 12-inch triangular blazed oak tree and 73.5 feet east of · the witness post. Point observed and measured to was a cross mark scribed in the approximate center of the base of the monument. ·

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION WADE

STATE MARYLAND YEAR 1962 SECOND ORDER

SOURCE G-12731
NO OBSERVATION CHECK ON THIS POSITION

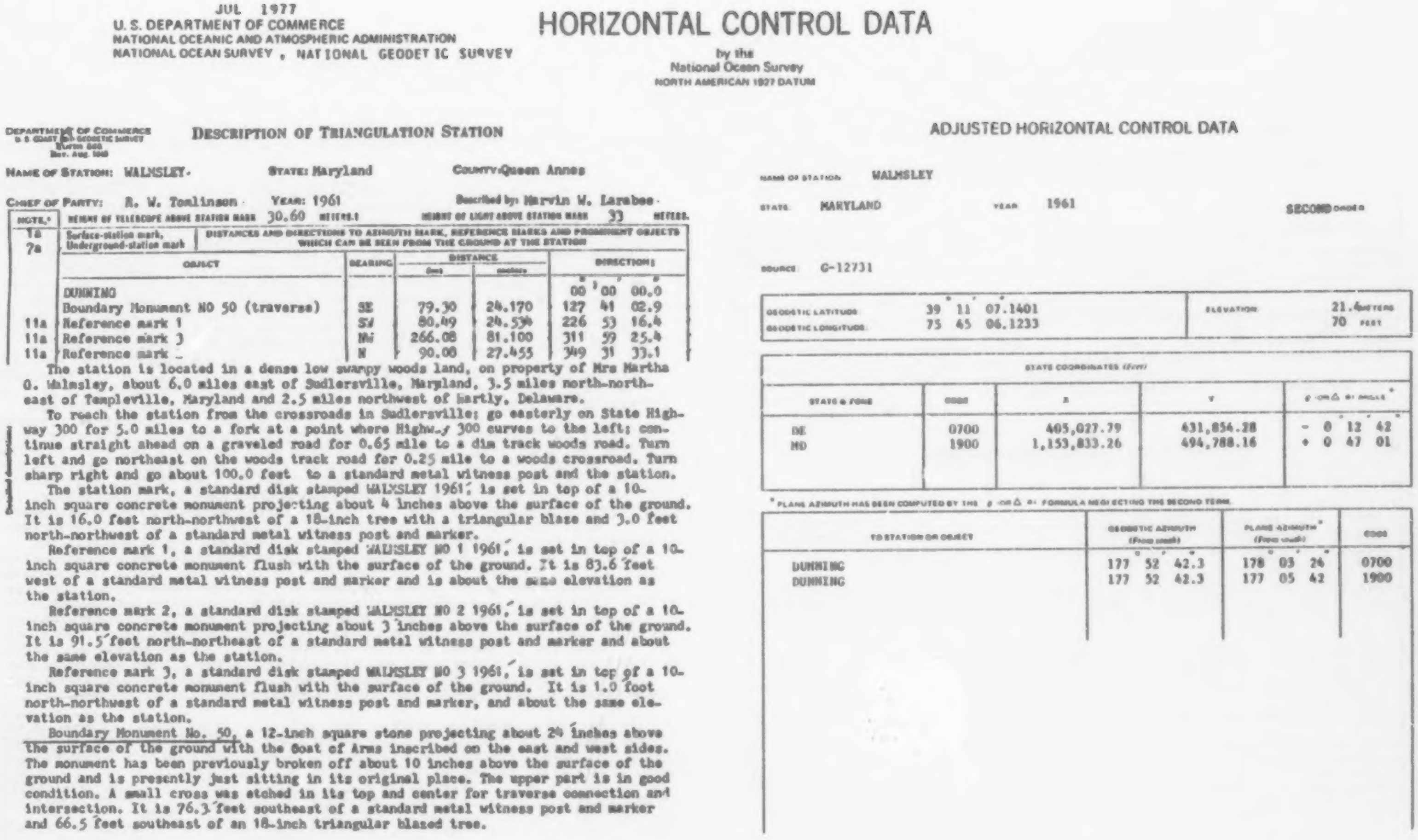
	°	′	″		
GEODETIC LATITUDE	38	47	36.3485	ELEVATION	12 METERS
GEODETIC LONGITUDE	75	43	13.8593	SCALED	FEET

STATE COORDINATES (feet)				
STATE & ZONE	CODE	X	Y	θ OR Δ α ANGLE*
DE	0700	413,391.42	289,092.29	− 0° 11′ 25″
MD	1900	1,164,672.33	352,200.02	+ 0 48 11

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δ α FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	356° 46′ 29.1″	356° 57′ 54″	0700
AZIMUTH MARK	356 46 29.1	355 58 18	1900

POSITION DETERMINED BY TRAVERSE FROM STATION DEVORE



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 525
Rev. Aug. 1949

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WALMSLEY. STATE: Maryland COUNTY: Queen Annes

CHIEF OF PARTY: R. W. Tomlinson. YEAR: 1961 Described by: Marvin W. Larabee.

HEIGHT OF TELESCOPE ABOVE STATION MARK 30.60 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33 METERS.

NOTE: 1a 7a Surface-station mark, Underground-station mark

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

NOTE	OBJECT	BEARING	DISTANCE (feet)	DISTANCE (meters)	DIRECTION °	′	″
	DUNNING				00	00	00.0
	Boundary Monument NO 50 (traverse)	SE	79.30	24.170	127	41	02.9
11a	Reference mark 1	SW	80.49	24.534	226	53	16.4
11a	Reference mark 3	NW	266.08	81.100	311	59	25.4
11a	Reference mark	N	90.08	27.455	349	31	33.1

The station is located in a dense low swampy woods land, on property of Mrs Martha O. Walmsley, about 6.0 miles east of Sudlersville, Maryland, 3.5 miles north-northeast of Templeville, Maryland and 2.5 miles northwest of Hartly, Delaware.

To reach the station from the crossroads in Sudlersville; go easterly on State Highway 300 for 5.0 miles to a fork at a point where Highway 300 curves to the left; continue straight ahead on a graveled road for 0.65 mile to a dim track woods road. Turn left and go northeast on the woods track road for 0.25 mile to a woods crossroad. Turn sharp right and go about 100.0 feet to a standard metal witness post and the station.

The station mark, a standard disk stamped WALMSLEY 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 16.0 feet north-northwest of a 18-inch tree with a triangular blaze and 3.0 feet north-northwest of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped WALMSLEY NO 1 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 83.6 feet west of a standard metal witness post and marker and is about the same elevation as the station.

Reference mark 2, a standard disk stamped WALMSLEY NO 2 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 91.5 feet north-northeast of a standard metal witness post and marker and about the same elevation as the station.

Reference mark 3, a standard disk stamped WALMSLEY NO 3 1961, is set in top of a 10-inch square concrete monument flush with the surface of the ground. It is 1.0 foot north-northwest of a standard metal witness post and marker, and about the same elevation as the station.

Boundary Monument No. 50, a 12-inch square stone projecting about 24 inches above the surface of the ground with the Coat of Arms inscribed on the east and west sides. The monument has been previously broken off about 10 inches above the surface of the ground and is presently just sitting in its original place. The upper part is in good condition. A small cross was etched in its top and center for traverse connection and intersection. It is 76.3 feet southeast of a standard metal witness post and marker and 66.5 feet southeast of an 18-inch triangular blazed tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION WALMSLEY

STATE MARYLAND YEAR 1961 SECOND ORDER

SOURCE G-12731

GEODETIC LATITUDE	39° 11′ 07.1401″	ELEVATION	21.4 METERS
GEODETIC LONGITUDE	75 45 06.1233		70 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE*
DE	0700	405,027.79	431,854.28	− 0° 12′ 42″
MD	1900	1,153,833.26	494,788.16	+ 0 47 01

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
DUNNING	177° 52′ 42.3″	178° 03′ 24″	0700
DUNNING	177 52 42.3	177 05 42	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: **WARREN**
ESTABLISHED BY: R.W.T. YEAR: 1961 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1975 COUNTY: New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles northeast of Chesapeake City
HEIGHT OF TELESCOPE ABOVE STATION MARK .5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
Azimuth Mark	SE	(0.35 mile)		0 00 00.0
RM 3	SW	41.96	12.789	121 05 31
New Boundary Monument NO. 75	NNW		198.669	218 26 53.0
Computhe point on Boundary line	NNW			219 43 42.1
RM 1	ENE	43.49	13.256	308 50 40

The station mark, reference mark 1 and the azimuth mark were recovered and found in good condition. Reference mark 2 was found destroyed. A new reference mark 3 was established in the near same position as the former reference mark 2. The boundary monument number 75 has been destroyed. The monument is now in the prone position near where reference mark 1 is set. The old position of the monument was re-established and a iron stake drove on the point where the Maryland-Delaware lines meet.. There is a separate report on Boundary Monument number 75.

A complete new description of the station follows.

The station is located 5 1/2 miles south of Glasgow Delaware, 2 miles northeast of Chesapeake City and just east of the State Line. The property is owned by John Losten Dairy Inc., Route 2, Chesapeake City.

To reach the station from the center of the small town of north Chesapeake City, go east on a paved road for 2.0 miles to a side road left and the azimuth mark on the right. Turn left and go north on a paved road for 0.35 mile to a highline crossing. Turn left and go west across a field for 0.35 mile to the top of a small rolling hill and the station.

The station mark is a standard disk stamped WARREN 1961, set in the top of a 10-inch square concrete monument which is 18-inches below the surface. It is 46 feet west of a witness post and 44 feet east of a witness post. (NOTE 1a 7a)

Reference mark 1 is a standard disk stamped WARREN NO 1 1961, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 2 feet west of a witness post. (NOTE 11a)

Reference mark 3 is a standard disk stamped WARREN 1961 NO 3 1975, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 2 feet east of a witness post. (NOTE 11a)

The azimuth mark is a standard disk stamped WARREN 1961, set in the top of a 10-inch square concrete monument which is 2-inches below the surface. It is 43 feet southwest of a powerline pole numbered J 205, 21 feet southwest of the center of the T-intersection, 13 feet south of of the center of the paved road and 2.1 feet north of a witness post. (NOTE 16a)

Additional descriptive information for this station may be obtained from the National Geodetic Survey,

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WARREN
STATE: DELAWARE YEAR: 1961 SECOND ORDER

SOURCE: G-12731

	° ' "		
GEODETIC LATITUDE:	39 32 45.9047	ELEVATION:	15.7 METERS
GEODETIC LONGITUDE:	75 46 48.7[illegible]67		52 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ OR Δα ANGLE* ° ' "
DE	0700	397,472.73	563,291.16	- 0 13 53
MD	1900	1,143,994.61	626,071.45	+ 0 45 56

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ OR Δα FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) ° ' "	PLANE AZIMUTH* (From south) ° ' "	CODE
AZIMUTH MARK	307 32 55.5	307 46 49	0700
AZIMUTH MARK	307 32 55.5	306 46 59	1900

RECOVERY NOTE, TRIANGULATION STATION

R

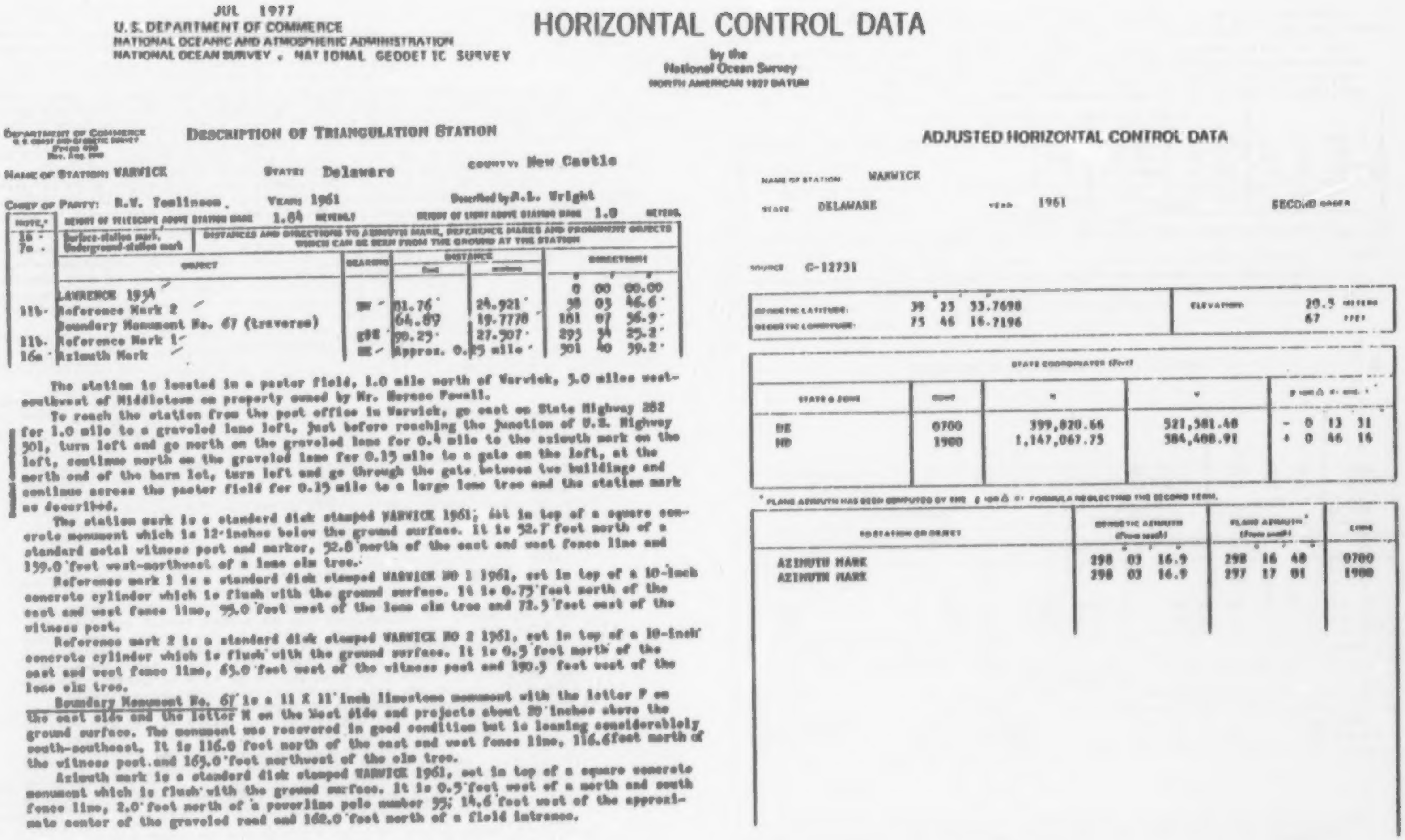
NAME OF STATION: WARREN
ESTABLISHED BY: R.W.T. YEAR: 1961 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY:* C.L. Novak YEAR: 1977 COUNTY: New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 2 miles northeast of Chesapeake City
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
AZIMUTH MARK	SE	(0.35 mile)		0 00 00:00
BOUNDARY MONUMENT #75	W	(103.38)	31.511	142 27 04.2
#HP 3800 EDMI				

The station mark was recovered and found in good condition. The reference marks were not dug down to. The ground was froze to about 16 inches.

The Maryland-Delaware Boundary Monument number 75 was reset at this date. See description thereof.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WARWICK STATE: Delaware COUNTY: New Castle

CHIEF OF PARTY: R.V. Tomlinson. YEAR: 1961 Described by R.L. Wright

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.84 METERS HEIGHT OF LIGHT ABOVE STATION MARK 1.0 METERS.

NOTE.*	OBJECT	BEARING	DISTANCE feet	DISTANCE meters	DIRECTION °	′	″
16 · Surface-station mark, 7a · Underground-station mark	DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION						
	LAWRENCE 1954				0	00	00.00
11b·	Reference Mark 2	SW	81.76	24.921	38	03	46.6
	Boundary Monument No. 67 (traverse)		64.89	19.7778	181	07	56.9
11b.	Reference Mark 1	SSE	90.25	27.507	295	34	25.2
16a ·	Azimuth Mark	SE	Approx. 0.25 mile		301	40	39.2

The station is located in a paster field, 1.0 mile north of Warwick, 3.0 miles west-southwest of Middletown on property owned by Mr. Horace Powell.

To reach the station from the post office in Warwick, go east on State Highway 282 for 1.0 mile to a graveled lane left, just before reaching the junction of U.S. Highway 301, turn left and go north on the graveled lane for 0.4 mile to the azimuth mark on the left, continue north on the graveled lane for 0.15 mile to a gate on the left, at the north end of the barn lot, turn left and go through the gate between two buildings and continue across the paster field for 0.15 mile to a large lone tree and the station mark as described.

The station mark is a standard disk stamped WARWICK 1961, set in top of a square concrete monument which is 12 inches below the ground surface. It is 52.7 feet north of a standard metal witness post and marker, 52.8 north of the east and west fence line and 139.0 feet west-northwest of a lone elm tree.

Reference mark 1 is a standard disk stamped WARWICK NO 1 1961, set in top of a 10-inch concrete cylinder which is flush with the ground surface. It is 0.75 feet north of the east and west fence line, 95.0 feet west of the lone elm tree and 72.5 feet east of the witness post.

Reference mark 2 is a standard disk stamped WARWICK NO 2 1961, set in top of a 10-inch concrete cylinder which is flush with the ground surface. It is 0.5 feet north of the east and west fence line, 63.0 feet west of the witness post and 190.5 feet west of the lone elm tree.

Boundary Monument No. 67 is a 11 X 11 inch limestone monument with the letter P on the east side and the letter M on the West side and projects about 20 inches above the ground surface. The monument was recovered in good condition but is leaning considerablely south-southeast. It is 116.0 feet north of the east and west fence line, 116.6 feet north of the witness post and 165.0 feet northwest of the elm tree.

Azimuth mark is a standard disk stamped WARWICK 1961, set in top of a square concrete monument which is flush with the ground surface. It is 0.5 feet west of a north and south fence line, 2.0 feet north of a powerline pole number 55; 14.6 feet west of the approximate center of the graveled road and 162.0 feet north of a field intrance.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION WARWICK

STATE DELAWARE YEAR 1961 SECOND ORDER

SOURCE C-12731

	°	′	″		
GEODETIC LATITUDE:	39	25	33.7698	ELEVATION:	20.5 METERS
GEODETIC LONGITUDE:	75	46	16.7196		67 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	[illegible] °	′	″
DE	0700	399,020.66	521,381.40	- 0	13	31
MD	1900	1,147,067.75	384,408.91	+ 0	46	16

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE [illegible] FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south) °	′	″	PLANE AZIMUTH* (From south) °	′	″	CODE
AZIMUTH MARK	298	03	16.9	298	16	48	0700
AZIMUTH MARK	298	03	16.9	297	17	01	1900

JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

WHARTON (New Castle Co., Del., J.B., Jr., 1934)

The station is on the property of W.G. Wharton, in a small clearing surrounded by woods, 76 feet SE of a 24-inch black jack tree, 62 feet NNE of the center line of a dirt road, and 25.5 feet W of a 30-inch hollow sweet gum tree. The station projects 6 inches above ground and is stamped "WHARTON 1934." This is a second-order station.

Surface, underground and reference marks are standard bronze disks set in concrete as described in notes 1a, 7a, and 11a.

Reference mark No.1 is 48.27 feet S of the station, 25.5 feet NE of the center line of a dirt road, 9.5 feet W of an 18-inch oak tree with a stump on the N side, 8.6 feet N of a 30-inch oak tree with a stone embedded in the root which is on the Delaware-Maryland boundary. The mark is in a fence line and on the Delaware-Maryland boundary. The mark projects 6 inches above ground and is stamped "WHARTON NO.1 1934." A 103-foot tower cleared lines.

Reference mark No.2 is 68.32 feet WSW of the station, and 11 feet SSW of the center line of a dirt road. The mark is flush with the surface of the ground and is stamped "WHARTON NO.2 1934."

Azimuth mark is approximately 0.3 mile NNW of the station, approximately 0.15 mile NE of the main dirt road, 74 paces NW of a group of peach trees, and 2 feet SE of a fence line. The mark is visible from the ground with clearing. The mark projects 6 inches above ground and is stamped "WHARTON AZIMUTH MARK 1934."

To reach the station from the post office at Massey go N on a concrete road for about 2.3 miles to mileage marker "23" and a dirt cross road, then turn right on a dirt road and follow the main-traveled road for about 2.4 miles to a cross road which is about 75 yards E of Galt railroad station, turn right on a dirt road for about 0.8 mile to a bend in the road and the station.

OBJECT	DISTANCE	DIRECTION
WOODALL		0°00'00"0
Az.Mk.(NNW)(V.G.with clearing)	0.3 mile (approx.)	67 00 50.65
R.M. 1 (S)	48.27 feet	260 55 25.3
R.M. 2 (WSW)	68.32 feet	349 32 25.8

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: WHARTON
ESTABLISHED BY: J.B. Jr. YEAR: 1934 STATE: Delaware
RECOVERED BY: R.W. Tomlinson YEAR: 1961 COUNTY: New Castle

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.52 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 33.99 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT		BEARING	DISTANCE		DIRECTION
			FEET	METERS	
LAMBERSON 2					0 00 00.00
Reference Mark 4	(Note 11a)	E	217.50	66.293	07 25 46.5
Reference Mark 1	(Note 11a)	SSE	48.27	14.713	80 35 55.6
Reference Mark 3	(Note 11a)	WNW	67.97	20.717	194 29 35.5

The station mark, reference mark 1 was recovered as described and found in good condition. Reference mark 2 was destroyed due to road construction. The azimuth mark was searched for but not recovered, it is belived to of been destroyed due to conservation. Reference marks number 3 and 4 was established.

The description was found to be adequate except that the road to Golts is now paved and the railroad station is gone.

Reference mark 3 is a standard disk stamped WHARTON NO 3 1934, set in top of a square concrete monument which projects 1-inch above the ground surface. It is 30.0 feet northeast of the approximate center of the graveled road, 67.6 feet west-northwest of a standard metal witness post and marker 81.0 feet northeast of an 18-inch triangular blazed oak tree and is about the same elevation as the station mark.

Reference mark 4 is a standard disk stamped WHARTON NO 4 1934, set in top of a square concrete monument which projects 6 inches above the ground surface. It is 1.9 feet west-northwest of a standard metal witness post and marker, 5.0 feet south of an 8-inch triangular blazed oak tree and 24.0 feet north of the approximate center of the graveled road.

The Mason and Dixon Boundary Monument was not recovered.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WHARTON
STATE: DELAWARE YEAR 1934 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	39° 19' 31".6171	ELEVATION:	24.5 METERS
GEODETIC LONGITUDE:	75 45 47.4530		80 FEET

STATE COORDINATES (feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
DE	0700	401,976.50	484,930.77	− 0° 13' 11"
MD	1900	1,149,860.40	547,801.86	+ 0 46 35

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZIMUTH MARK	153° 49' 03".7	154° 02' 16"	0700
AZIMUTH MARK	153 49 03.7	153 02 29	1900

RECOVERY NOTE, TRIANGULATION STATION

R

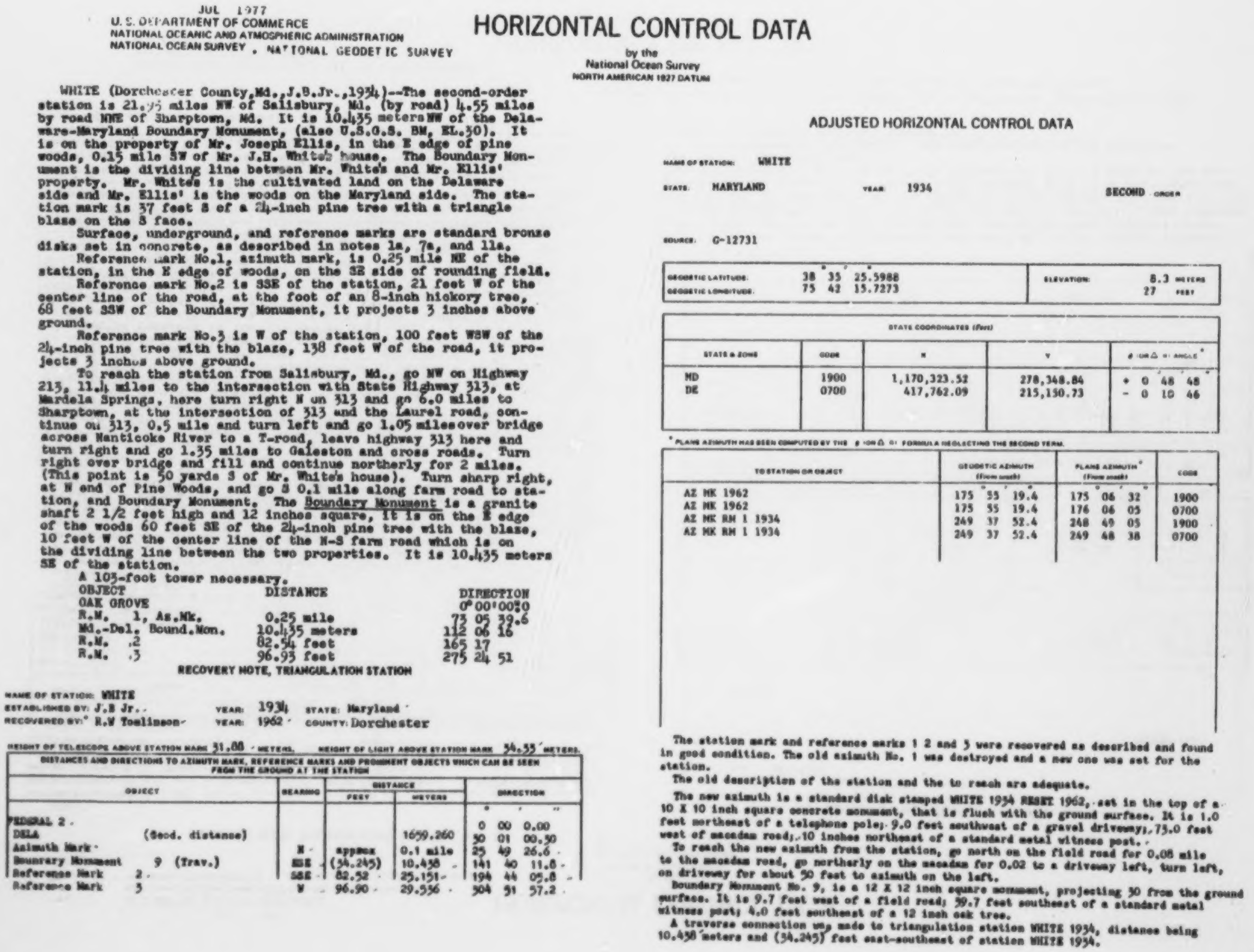
NAME OF STATION: WHARTON
ESTABLISHED BY: L.A.L. YEAR: 1934 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: New Castle
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 3 miles southeast of Sassafras
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
RM 4 (EDM1)	E	217.48	66.288	0 00 00.00
RM 1	SSE	48.28	14.715	73 09 23
BOUNDARY MONUMENT #60	W	2.09	0.638	171 53 00.0

The station and all marks were recovered and found in good condition as described in the previous description. The distances and direction to all marks were within close agreement with the previous observations.

The Maryland-Delaware Boundary Monument number 60 was reset at this date, see description thereof. Due to the high water table, the reference mark 3 could not be located at this date, however it is believed still intact.



JUL 1977
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY . NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

WHITE (Dorchester County, Md., J.B.Jr., 1934)--The second-order station is 21.95 miles NW of Salisbury, Md. (by road) 4.55 miles by road NNE of Sharptown, Md. It is 10.435 meters NW of the Delaware-Maryland Boundary Monument, (also U.S.G.S. BM, EL.30). It is on the property of Mr. Joseph Ellis, in the E edge of pine woods, 0.15 mile SW of Mr. J.H. White's house. The Boundary Monument is the dividing line between Mr. White's and Mr. Ellis' property. Mr. Whites is the cultivated land on the Delaware side and Mr. Ellis' is the woods on the Maryland side. The station mark is 37 feet S of a 24-inch pine tree with a triangle blaze on the S face.

Surface, underground, and reference marks are standard bronze disks set in concrete, as described in notes 1a, 7a, and 11a.

Reference mark No.1, azimuth mark, is 0.25 mile NE of the station, in the E edge of woods, on the SE side of rounding field.

Reference mark No.2 is SSE of the station, 21 feet W of the center line of the road, at the foot of an 8-inch hickory tree, 68 feet SSW of the Boundary Monument, it projects 3 inches above ground.

Reference mark No.3 is W of the station, 100 feet WSW of the 24-inch pine tree with the blaze, 138 feet W of the road, it projects 3 inches above ground.

To reach the station from Salisbury, Md., go NW on Highway 213, 11.4 miles to the intersection with State Highway 313, at Mardela Springs, here turn right N on 313 and go 6.0 miles to Sharptown, at the intersection of 313 and the Laurel road, continue on 313, 0.5 mile and turn left and go 1.05 miles over bridge across Nanticoke River to a T-road, leave highway 313 here and turn right and go 1.35 miles to Galeston and cross roads. Turn right over bridge and fill and continue northerly for 2 miles. (This point is 50 yards S of Mr. White's house). Turn sharp right, at N end of Pine Woods, and go S 0.1 mile along farm road to station, and Boundary Monument. The Boundary Monument is a granite shaft 2 1/2 feet high and 12 inches square, it is on the E edge of the woods 60 feet SE of the 24-inch pine tree with the blaze, 10 feet W of the center line of the N-S farm road which is on the dividing line between the two properties. It is 10.435 meters SE of the station.

A 103-foot tower necessary.

OBJECT	DISTANCE	DIRECTION
OAK GROVE		0°00′00″.0
R.M. 1, Az.Mk.	0.25 mile	73 05 39.6
Md.-Del. Bound.Mon.	10.435 meters	112 06 16
R.M. 2	82.54 feet	165 17
R.M. 3	96.93 feet	275 24 51

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: WHITE
ESTABLISHED BY: J.B Jr. YEAR: 1934 STATE: Maryland
RECOVERED BY: R.W Tomlinson YEAR: 1962 COUNTY: Dorchester

HEIGHT OF TELESCOPE ABOVE STATION MARK 31.88 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34.33 METERS.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	° ′ ″
FEDERAL 2				0 00 0.00
DELA (Geod. distance)			1659.260	30 01 00.50
Azimuth Mark	N	appmox	0.1 mile	25 49 26.6
Bounrary Monument 9 (Trav.)	ESE	(34.245)	10.438	141 40 11.8
Reference Mark 2	SSE	82.52	25.151	194 44 05.8
Reference Mark 3	W	96.90	29.536	304 51 57.2

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WHITE
STATE: MARYLAND YEAR: 1934 SECOND ORDER

SOURCE: G-12731

GEODETIC LATITUDE:	38° 35′ 25″.5988	ELEVATION:	8.3 METERS
GEODETIC LONGITUDE:	75 42 15.7273		27 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δα) ANGLE*
MD	1900	1,170,323.52	278,348.84	+ 0° 48′ 48″
DE	0700	417,762.09	215,150.73	- 0 10 46

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK 1962	175° 55′ 19.4″	175° 06′ 32″	1900
AZ MK 1962	175 55 19.4	176 06 05	0700
AZ MK RM 1 1934	249 37 52.4	248 49 05	1900
AZ MK RM 1 1934	249 37 52.4	249 48 38	0700

The station mark and reference marks 1 2 and 3 were recovered as described and found in good condition. The old azimuth No. 1 was destroyed and a new one was set for the station.

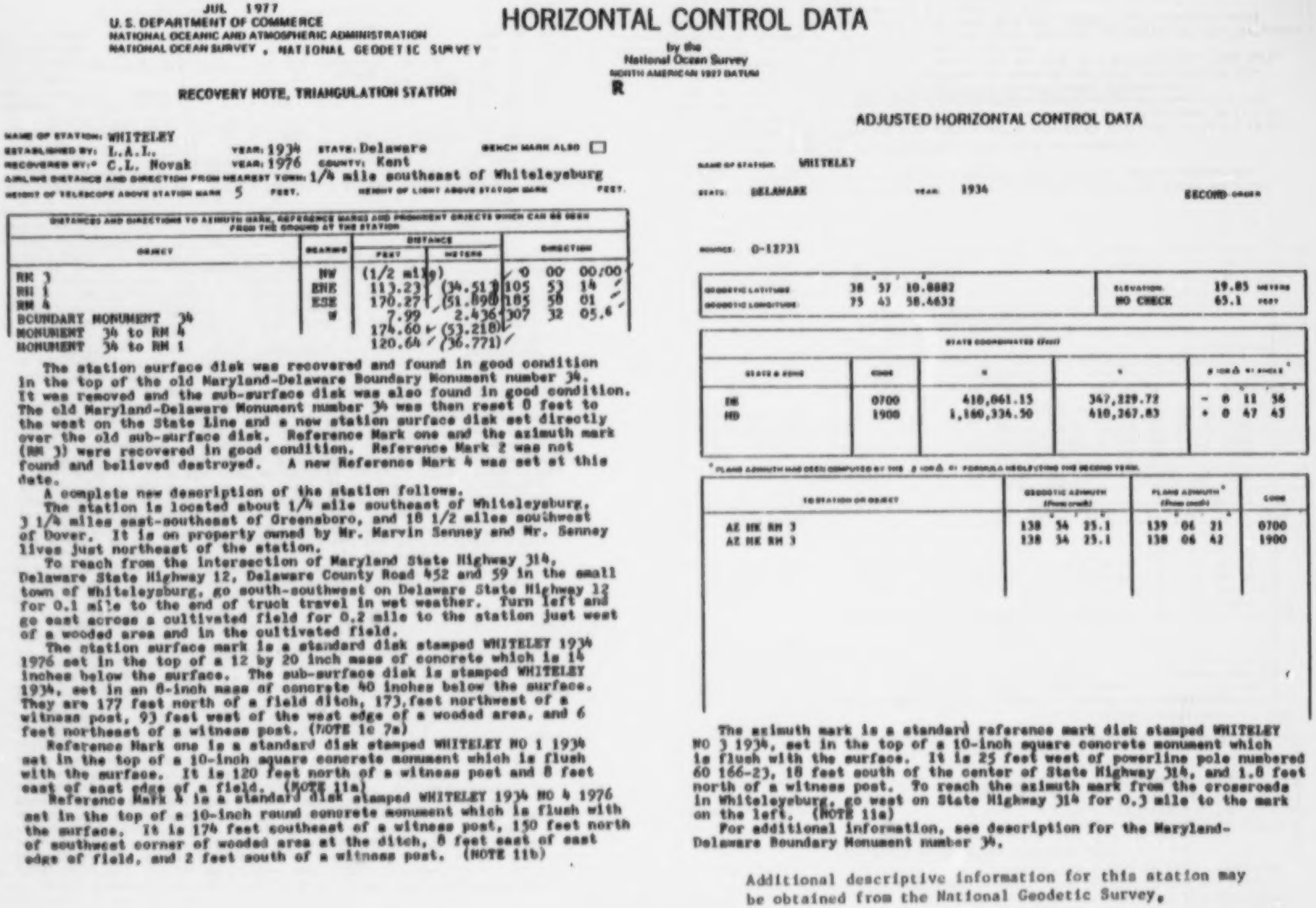
The old description of the station and the to reach are adequate.

The new azimuth is a standard disk stamped WHITE 1934 RESET 1962, set in the top of a 10 X 10 inch square concrete monument, that is flush with the ground surface. It is 1.0 feet northeast of a telephone pole; 9.0 feet southwest of a gravel driveway; 73.0 feet west of macadam road; 10 inches northeast of a standard metal witness post.

To reach the new azimuth from the station, go north on the field road for 0.08 mile to the macadam road, go northerly on the macadam for 0.02 to a driveway left, turn left, on driveway for about 30 feet to azimuth on the left.

Boundary Monument No. 9, is a 12 X 12 inch square monument, projecting 30 from the ground surface. It is 9.7 feet west of a field road; 39.7 feet southeast of a standard metal witness post; 4.0 feet southeast of a 12 inch oak tree.

A traverse connection was made to triangulation station WHITE 1934, distance being 10.438 meters and (34.245) feet east-southeast of station WHITE 1934.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

R

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: WHITELEY
ESTABLISHED BY: L.A.L. YEAR: 1934 STATE: Delaware BENCH MARK ALSO ☐
RECOVERED BY: C.L. Novak YEAR: 1976 COUNTY: Kent
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 1/4 mile southeast of Whiteleysburg
HEIGHT OF TELESCOPE ABOVE STATION MARK 5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION				
OBJECT	BEARING	DISTANCE FEET	DISTANCE METERS	DIRECTION
RM 3	NW	(1/2 mile)		0 00 00.00 ✓
RM 1	ENE	113.23 ✓	(34.513)	105 53 14 ✓
RM 4	ESE	170.27 ✓	(51.898)	185 58 01 ✓
BOUNDARY MONUMENT 34	W	7.99 ✓	2.436	307 32 05.6 ✓
MONUMENT 34 to RM 4		174.60 ✓	(53.218) ✓	
MONUMENT 34 to RM 1		120.64 ✓	(36.771) ✓	

The station surface disk was recovered and found in good condition in the top of the old Maryland-Delaware Boundary Monument number 34. It was removed and the sub-surface disk was also found in good condition. The old Maryland-Delaware Monument number 34 was then reset 8 feet to the west on the State Line and a new station surface disk set directly over the old sub-surface disk. Reference Mark one and the azimuth mark (RM 3) were recovered in good condition. Reference Mark 2 was not found and believed destroyed. A new Reference Mark 4 was set at this date.

A complete new description of the station follows.

The station is located about 1/4 mile southeast of Whiteleysburg, 3 1/4 miles east-southeast of Greensboro, and 18 1/2 miles southwest of Dover. It is on property owned by Mr. Marvin Senney and Mr. Senney lives just northeast of the station.

To reach from the intersection of Maryland State Highway 314, Delaware State Highway 12, Delaware County Road 452 and 59 in the small town of Whiteleysburg, go south-southwest on Delaware State Highway 12 for 0.1 mile to the end of truck travel in wet weather. Turn left and go east across a cultivated field for 0.2 mile to the station just west of a wooded area and in the cultivated field.

The station surface mark is a standard disk stamped WHITELEY 1934 1976 set in the top of a 12 by 20 inch mass of concrete which is 14 inches below the surface. The sub-surface disk is stamped WHITELEY 1934, set in an 8-inch mass of concrete 40 inches below the surface. They are 177 feet north of a field ditch, 173 feet northwest of a witness post, 93 feet west of the west edge of a wooded area, and 6 feet northeast of a witness post. (NOTE 1c 7a)

Reference Mark one is a standard disk stamped WHITELEY NO 1 1934 set in the top of a 10-inch square concrete monument which is flush with the surface. It is 120 feet north of a witness post and 8 feet east of east edge of a field. (NOTE 11a)

Reference Mark 4 is a standard disk stamped WHITELEY 1934 NO 4 1976 set in the top of a 10-inch round concrete monument which is flush with the surface. It is 174 feet southeast of a witness post, 150 feet north of southwest corner of wooded area at the ditch, 8 feet east of east edge of field, and 2 feet south of a witness post. (NOTE 11b)

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WHITELEY
STATE: DELAWARE YEAR: 1934 SECOND ORDER
SOURCE: G-12731

GEODETIC LATITUDE	38 57 10.0882	ELEVATION 19.85 METERS
GEODETIC LONGITUDE	75 43 58.4632	NO CHECK 65.1 FEET

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	θ (OR Δα) OR ANGLE*
DE	0700	410,061.15	367,229.72	− 0 11 36
MD	1900	1,160,334.50	410,267.83	+ 0 47 43

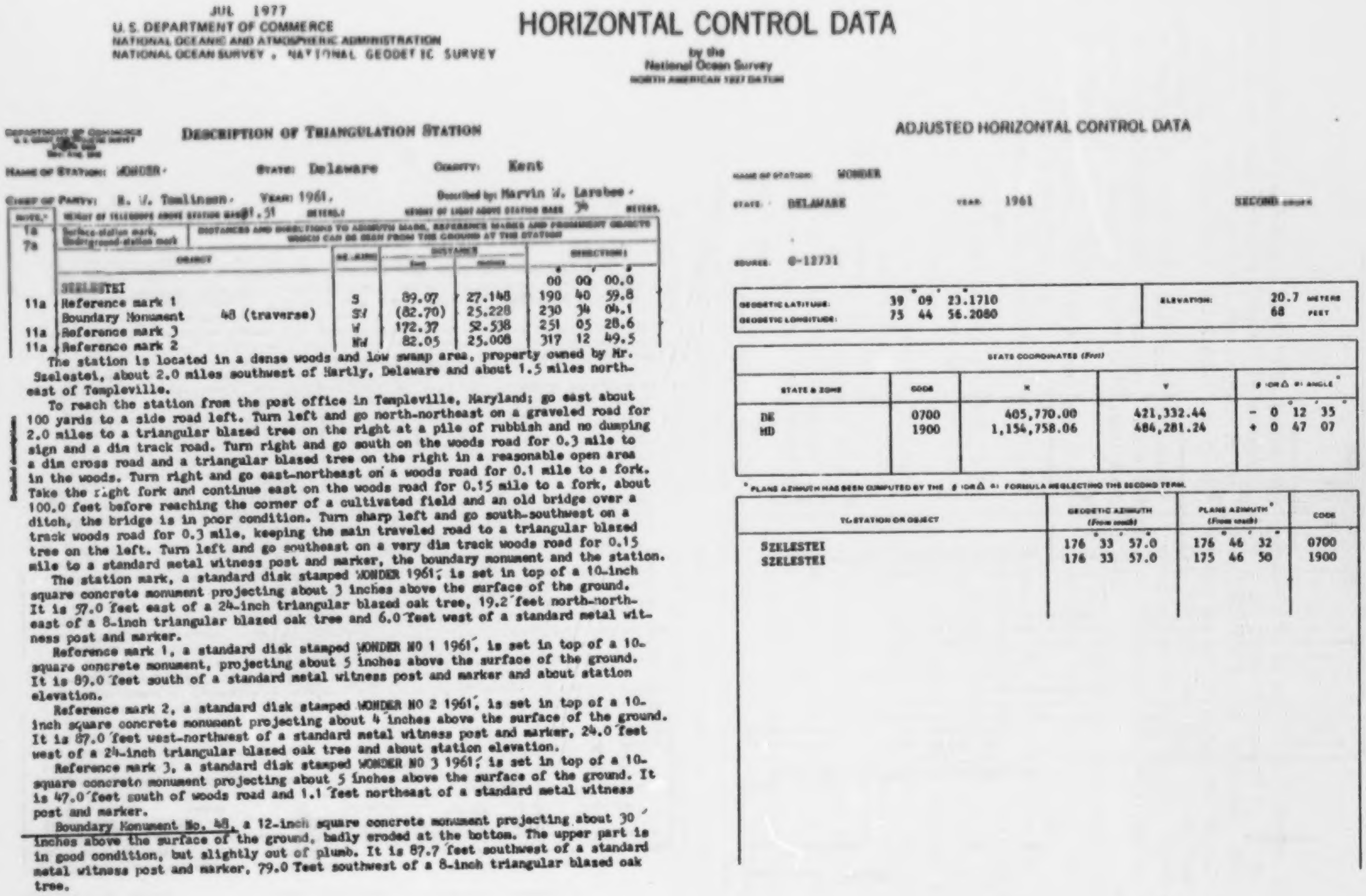
*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δα) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
AZ MK RM 3	138 34 25.1	139 06 21	0700
AZ MK RM 3	138 34 25.1	138 06 42	1900

The azimuth mark is a standard reference mark disk stamped WHITELEY NO 3 1934, set in the top of a 10-inch square concrete monument which is flush with the surface. It is 25 feet west of powerline pole numbered 60 166-23, 18 feet south of the center of State Highway 314, and 1.8 feet north of a witness post. To reach the azimuth mark from the crossroads in Whiteleysburg, go west on State Highway 314 for 0.3 mile to the mark on the left. (NOTE 11a)

For additional information, see description for the Maryland-Delaware Boundary Monument number 34.

Additional descriptive information for this station may be obtained from the National Geodetic Survey.



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WONDER · STATE: Delaware COUNTY: Kent

CHIEF OF PARTY: R. W. Tomlinson · YEAR: 1961. DESCRIBED BY: Marvin W. Larabee ·

HEIGHT OF TELESCOPE ABOVE STATION MARK [illegible]1.51 METERS. HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.

NOTE	OBJECT		BEARING	DISTANCE Feet	DISTANCE Meters	DIRECTION °	′	″
1a 7a	Surface-station mark, Underground-station mark							
	SZELESTEI					00	00	00.0
11a	Reference mark 1		S	89.07	27.148	190	40	59.8
	Boundary Monument	48 (traverse)	SW	(82.70)	25.228	230	34	04.1
11a	Reference mark 3		W	172.37	52.538	251	05	28.6
11a	Reference mark 2		NW	82.05	25.008	317	12	49.5

The station is located in a dense woods and low swamp area, property owned by Mr. Szelestei, about 2.0 miles southwest of Hartly, Delaware and about 1.5 miles northeast of Templeville.

To reach the station from the post office in Templeville, Maryland; go east about 100 yards to a side road left. Turn left and go north-northeast on a graveled road for 2.0 miles to a triangular blazed tree on the right at a pile of rubbish and no dumping sign and a dim track road. Turn right and go south on the woods road for 0.3 mile to a dim cross road and a triangular blazed tree on the right in a reasonable open area in the woods. Turn right and go east-northeast on a woods road for 0.1 mile to a fork. Take the right fork and continue east on the woods road for 0.15 mile to a fork, about 100.0 feet before reaching the corner of a cultivated field and an old bridge over a ditch, the bridge is in poor condition. Turn sharp left and go south-southwest on a track woods road for 0.3 mile, keeping the main traveled road to a triangular blazed tree on the left. Turn left and go southeast on a very dim track woods road for 0.15 mile to a standard metal witness post and marker, the boundary monument and the station.

The station mark, a standard disk stamped WONDER 1961, is set in top of a 10-inch square concrete monument projecting about 3 inches above the surface of the ground. It is 57.0 feet east of a 24-inch triangular blazed oak tree, 19.2 feet north-northeast of a 8-inch triangular blazed oak tree and 6.0 feet west of a standard metal witness post and marker.

Reference mark 1, a standard disk stamped WONDER NO 1 1961, is set in top of a 10-square concrete monument, projecting about 5 inches above the surface of the ground. It is 89.0 feet south of a standard metal witness post and marker and about station elevation.

Reference mark 2, a standard disk stamped WONDER NO 2 1961, is set in top of a 10-inch square concrete monument projecting about 4 inches above the surface of the ground. It is 87.0 feet west-northwest of a standard metal witness post and marker, 24.0 feet west of a 24-inch triangular blazed oak tree and about station elevation.

Reference mark 3, a standard disk stamped WONDER NO 3 1961, is set in top of a 10-square concrete monument projecting about 5 inches above the surface of the ground. It is 47.0 feet south of woods road and 1.1 feet northeast of a standard metal witness post and marker.

Boundary Monument No. 48, a 12-inch square concrete monument projecting about 30 inches above the surface of the ground, badly eroded at the bottom. The upper part is in good condition, but slightly out of plumb. It is 87.7 feet southwest of a standard metal witness post and marker, 79.0 feet southwest of a 8-inch triangular blazed oak tree.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WONDER

STATE: DELAWARE YEAR: 1961 SECOND ORDER

SOURCE: G-12731

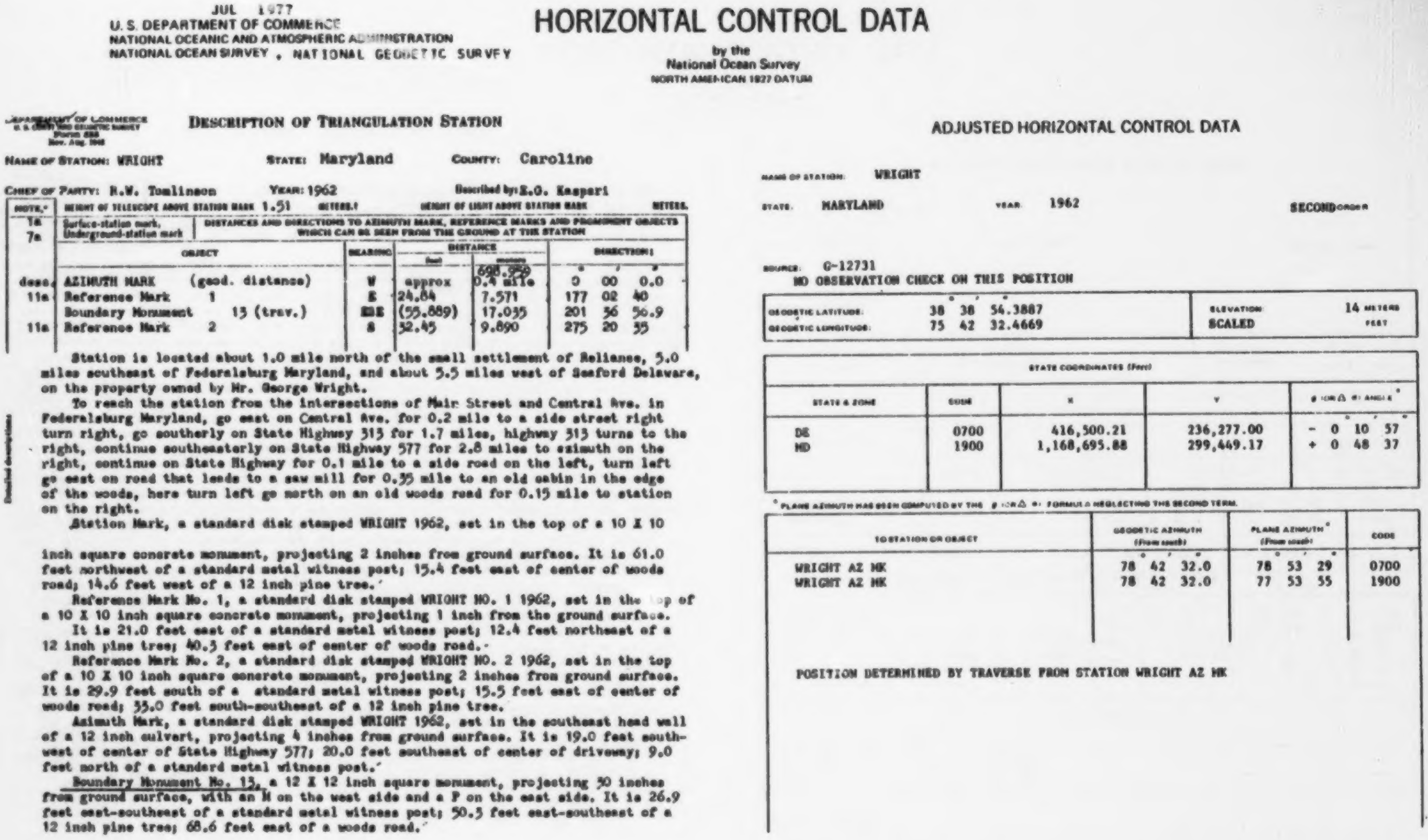
	°	′	″		
GEODETIC LATITUDE:	39	09	23.1710	ELEVATION:	20.7 METERS
GEODETIC LONGITUDE:	75	44	56.2080		68 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	405,770.00	421,332.44	- 0° 12′ 35″
MD	1900	1,154,758.06	484,281.24	+ 0 47 07

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
SZELESTEI	176° 33′ 57.0″	176° 46′ 32″	0700
SZELESTEI	176 33 57.0	175 46 50	1900



JUL 1977
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY , NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

DEPARTMENT OF COMMERCE

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: WRIGHT STATE: Maryland COUNTY: Caroline

CHIEF OF PARTY: R.W. Tomlinson YEAR: 1962 Described by: E.O. Kaspari

HEIGHT OF TELESCOPE ABOVE STATION MARK 1.51 METERS. HEIGHT OF LIGHT ABOVE STATION MARK METERS.

NOTE	OBJECT	BEARING	DISTANCE (feet)	DISTANCE (meters)	DIRECTION °	′	″
7a 7a	Surface-station mark, Underground-station mark						
desc.	AZIMUTH MARK (geod. distance)	W	approx	698.959 0.4 mile	0	00	0.0
11a	Reference Mark 1	E	24.84	7.571	177	02	40
	Boundary Monument 13 (trav.)	ESE	(55.889)	17.035	201	56	56.9
11a	Reference Mark 2	S	32.45	9.890	275	20	55

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

Station is located about 1.0 mile north of the small settlement of Reliance, 5.0 miles southeast of Federalsburg Maryland, and about 5.5 miles west of Seaford Delaware, on the property owned by Mr. George Wright.

To reach the station from the intersections of Main Street and Central Ave. in Federalsburg Maryland, go east on Central Ave. for 0.2 mile to a side street right turn right, go southerly on State Highway 313 for 1.7 miles, highway 313 turns to the right, continue southeasterly on State Highway 577 for 2.8 miles to azimuth on the right, continue on State Highway for 0.1 mile to a side road on the left, turn left go east on road that leads to a saw mill for 0.35 mile to an old cabin in the edge of the woods, here turn left go north on an old woods road for 0.15 mile to station on the right.

Station Mark, a standard disk stamped WRIGHT 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inches from ground surface. It is 61.0 feet northwest of a standard metal witness post; 15.4 feet east of center of woods road; 14.6 feet west of a 12 inch pine tree.

Reference Mark No. 1, a standard disk stamped WRIGHT NO. 1 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 1 inch from the ground surface.

It is 21.0 feet east of a standard metal witness post; 12.4 feet northeast of a 12 inch pine tree; 40.3 feet east of center of woods road.

Reference Mark No. 2, a standard disk stamped WRIGHT NO. 2 1962, set in the top of a 10 X 10 inch square concrete monument, projecting 2 inches from ground surface. It is 29.9 feet south of a standard metal witness post; 15.5 feet east of center of woods road; 33.0 feet south-southeast of a 12 inch pine tree.

Azimuth Mark, a standard disk stamped WRIGHT 1962, set in the southeast head wall of a 12 inch culvert, projecting 4 inches from ground surface. It is 19.0 feet southwest of center of State Highway 577; 20.0 feet southeast of center of driveway; 9.0 feet north of a standard metal witness post.

Boundary Monument No. 13, a 12 X 12 inch square monument, projecting 30 inches from ground surface, with an M on the west side and a P on the east side. It is 26.9 feet east-southeast of a standard metal witness post; 50.3 feet east-southeast of a 12 inch pine tree; 68.6 feet east of a woods road.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: WRIGHT

STATE: MARYLAND YEAR: 1962 SECOND ORDER

SOURCE: G-12731
NO OBSERVATION CHECK ON THIS POSITION

	°	′	″		
GEODETIC LATITUDE:	38	38	54.3887	ELEVATION:	14 METERS
GEODETIC LONGITUDE:	75	42	32.4669	SCALED	FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	X	Y	θ (OR Δ α) ANGLE*
DE	0700	416,500.21	236,277.00	- 0° 10′ 57″
MD	1900	1,168,695.88	299,449.17	+ 0 48 37

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
WRIGHT AZ MK	78° 42′ 32.0″	78° 53′ 29″	0700
WRIGHT AZ MK	78 42 32.0	77 53 55	1900

POSITION DETERMINED BY TRAVERSE FROM STATION WRIGHT AZ MK

REFERENCES

American Philosophical Society, 1969: "The Journal of Charles Mason and Jeremiah Dixon," Philadelphia, Pa., 231 pp. (transcribed from the original in the U.S. National Archives with an Introduction by A. Hughlett Mason).

Bayliff, William H., 1959: "The Maryland-Pennsylvania and the Maryland-Delaware Boundaries," Bulletin 4, Second Edition, Maryland Board of Natural Resources, Annapolis, July, 120 pp.

Cummings, Hubertis M., 1962: *The Mason and Dixon Line, Story for a Bicentenary 1763-1963*, Commonwealth of Pennsylvania, Department of Internal Affairs, Harrisburg, 114 pp.

Hodgkins, W.C., 1893: "Appendix No. 8 - 1893," *U.S. Coast and Geodetic Survey Report for 1893*—Part II, Washington, D.C., pp. 177-215.

Kelley, James A., 1973: "The Transpeninsular Line," *The Archeolog*, Vol. XXV, Sussex Society of Archeology and History, Sussex, Delaware, pp. 12-18.

Meade, Buford K., 1964: "Delaware-Maryland North-South Boundary Resurvey of 1961-62," *Journal of the American Congress on Surveying and Mapping*, Vol. XXIV, No. 1, March, pp. 33-36.

Munroe, John A., 1978a: (College of Arts & Science, Department of History, University of Delaware, Newark) "Identification of the Present State of Delaware," dated July 7, 1978, personal letter to Buford K. Meade.

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National Bureau of Standards, 1959: "Refinement of Values for the Yard and the Pound," *Federal Register*, Vol. 24, No. 128, Office of the Federal Register, National Archives and Records Service, General Services Administration, Washington, D.C., July 1, p. 5348.

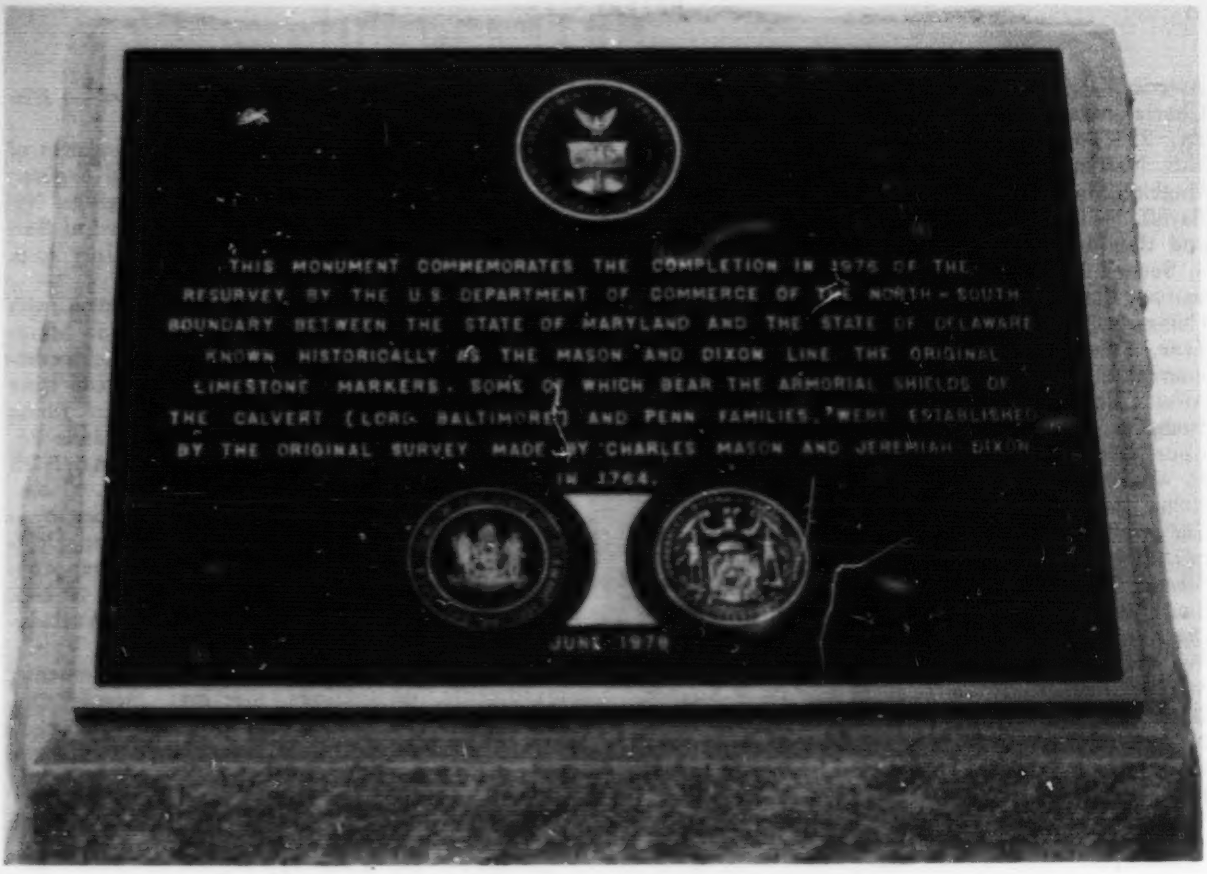
National Oceanic and Atmospheric Administration (with cooperation from the States of Delaware and Maryland), 1978: "The Mason/Dixon Line: Commemoration of the Resurvey of the Mason/Dixon Line (North-South Boundary); Maryland-Delaware Route 404 at the Mason/Dixon Line; Monday, June 26, 1978." U.S. Department of Commerce, NOAA/NOS National Geodetic Survey, Rockville, Md. 8 pp.

U.S. Congress, 1955: "Coast and Geodetic Survey—Resurvey Common Boundary—Maryland and Delaware," *Law of 84th Congress—1st Session, Aug. 11*, Chapter 780, Public Law 342, S. 987, 24 16 U.S. Congressional Act (U.S.C.A.) 11 461-467, Washington, D.C. p. 710.

Numerous citations in the text such as agreements, amendments, instructions, meetings, memoranda, recommendations, and reports have not been referenced. These documents are available at the Department of Commerce, NOAA/NOS National Geodetic Survey, Rockville, Md.

FOR INFORMATION WRITE NATIONAL
HORIZONTAL CONTROL & BOUNDARY
DELAWARE
MARYLAND

Type of boundary disc established in resurvey of Delaware-Maryland boundaries in 1976 and 1981.



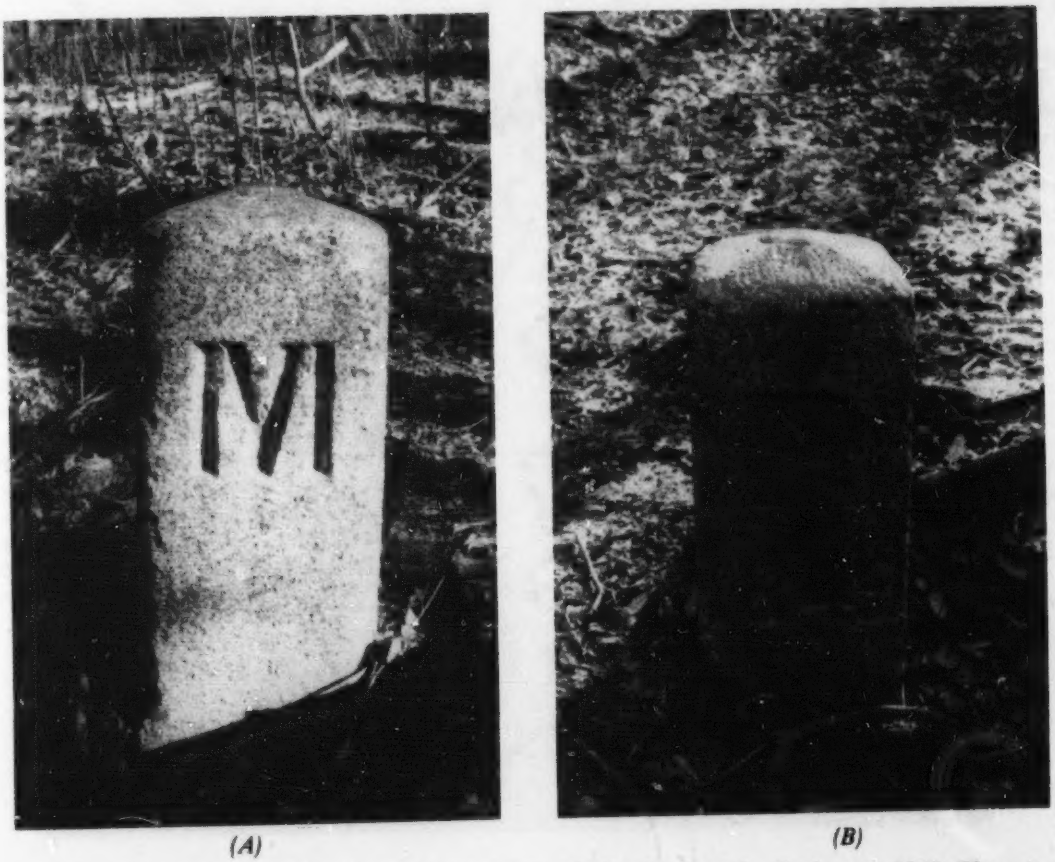
THIS MONUMENT COMMEMORATES THE COMPLETION IN 1976 OF THE
RESURVEY BY THE U.S. DEPARTMENT OF COMMERCE OF THE NORTH - SOUTH
BOUNDARY BETWEEN THE STATE OF MARYLAND AND THE STATE OF DELAWARE
KNOWN HISTORICALLY AS THE MASON AND DIXON LINE. THE ORIGINAL
LIMESTONE MARKERS, SOME OF WHICH BEAR THE ARMORIAL SHIELDS OF
THE CALVERT (LORD BALTIMORE) AND PENN FAMILIES, WERE ESTABLISHED
BY THE ORIGINAL SURVEY MADE BY CHARLES MASON AND JEREMIAH DIXON
IN 1764.

JUNE 1976

Courtesy of: Joseph F. Dracup

This commemorative monument stands at a point on the north-south boundary where the Mason-Dixon Line intersects with Maryland route 404. (See preface, page iii, for details.)

Part Three
Appendixes



(A)

(B)

Courtesy of: Ralph Poust

Boundary Monument marking the northeast corner of Maryland, set by Graham in 1849. The original stone at this boundary corner, set by Mason and Dixon on June 18, 1765, was destroyed in the early 1800's. (A) West (Maryland) side of corner stone. (B) North (Pennsylvania) side of corner stone.

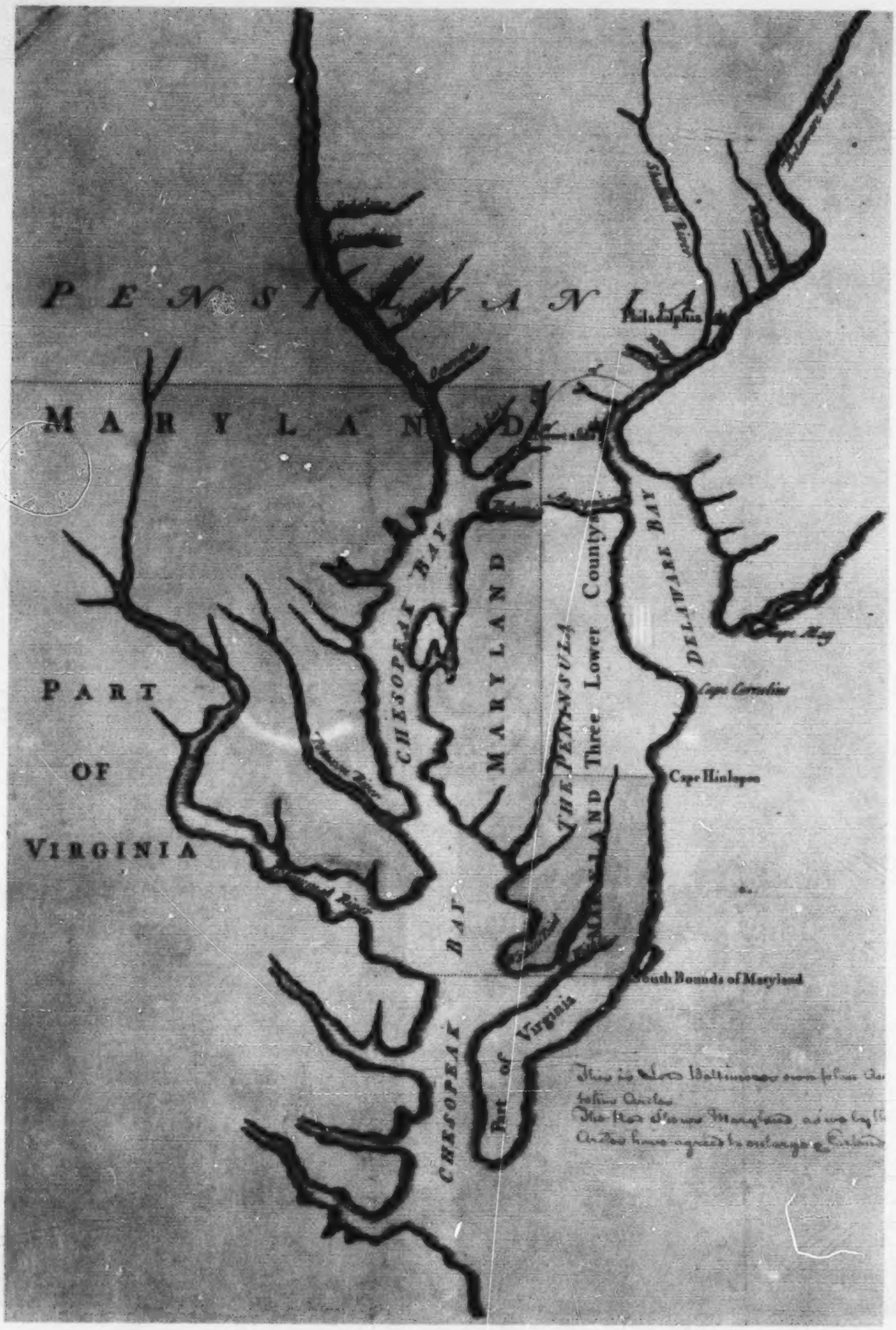

PENSILVANIA
Philadelphia
MARYLAND
PART OF VIRGINIA
CHESOPEAK BAY
MARYLAND
THE PENINSULA
Three Lower Countys
DELAWARE BAY
Cape May
Cape Cornelius
Cape Hinlopen
MARYLAND
BAY
South Bounds of Maryland
Part of Virginia
CHESOPEAK
This is Lord Baltimores own plan be-
fore Articles
The Plan shows Maryland as we by the
Articles have agreed to exchange

FIGURE 10.—Reproduction of original map in the agreement between Lord Baltimore and Penn heirs (from appendix E).

APPENDIX A

COOPERATIVE AGREEMENT FOR A RESURVEY OF THE DELAWARE-MARYLAND EAST-WEST BOUNDARY

This agreement provides for a cooperative program between the States of Delaware and Maryland and the National Ocean Survey for the purpose of performing a geodetic survey along the east-west boundary of the States of Delaware and Maryland on a cost-sharing basis. The estimated total cost of the geodetic survey portion of this program is approximately $120,000 of which each party to this agreement will pay one-third or approximately $40,000. This estimate does not include the cost of purchasing and setting additional boundary stones after the boundary delineation has been made. The cost of geodetic measurements necessary for establishing or resetting boundary stones, however, is included in the estimate.

The National Geodetic Survey, a component of the National Ocean Survey, by this agreement will provide geodetic surveys along the boundary line from the vicinity of Fenwick Island to the vicinity of Boundary Stone Middle Point. The survey will be made a part of the National Geodetic Horizontal Control Network to insure accurate future definition of the boundary in the event boundary stones become disturbed or destroyed. Geodetic data resulting from this survey will be available to anyone upon request as is the normal practice of the National Geodetic Survey. (See the references.) Primary stations will be established by the National Geodetic Survey in the vicinity of the 5-mile boundary stones; and where the 5-mile boundary stones cannot be found, stations will be established in close proximity of the described locations. Additional stations at 1-mile intervals will be established by joint effort of the NGS and the States. The NGS will also assist the States in research and computations for a determination of the true location of the boundary line. Offset computations will be made from the new points established by the NGS to the location of the boundary as determined by this joint effort. The NGS will provide geodetic assistance in establishing or resetting the boundary stones in the agreed-to locations.

The States hereby agree to establish a working group in conjunction with the NGS in an effort to ascertain the true boundary delineation and to assist in any way possible to assure the success of this program. The States agree to assist the NGS in the reconnaissance phase of the program. This will involve the selection of the sites for primary geodetic control stations, which will require the use of steel towers and the obtaining of permission of the property owners on whose land the points will be established. The States also agree to provide observers to determine that the program is being carried out in a fair and objective manner.

The NGS will require adequate facilities for parking of approximately 16 to 20 mobile homes utilized by the geodetic field party personnel for living accommodations. Assistance from the States may be necessary to meet this requirement.

NOS participation in this project is subject to budgetary limitations and administrative approval. Parties to this agreement may withdraw at any time prior to actually starting the project or by giving 30-days' written notice prior to withdrawal.

State of Delaware participation in this project is subject to budgetary limitations and administrative approval.

SIGNED	DATE
Allen L. Powell, Director National Ocean Survey	August 7, 1973
Robert R. Jordan, Chairman Delaware State Boundary Commission	September 27, 1973
Kenneth N. Weaver, Director Maryland Geological Survey	October 5, 1973

APPENDIX B

MEMORANDUM OF UNDERSTANDING BETWEEN THE STATE OF DELAWARE AND THE STATE OF MARYLAND CONCERNING THE RESURVEY OF THE TRANSPENINSULAR (EAST-WEST) BOUNDARY LINE

Authorized representatives of the State of Delaware and the State of Maryland meeting at the Cabinet Room, Townsend Building, Dover, Delaware, on May 7, 1975, agree to the following propositions concerning the Transpeninsular (east-west) Boundary Line between our States for the purpose of furthering the clear reestablishment of a monumented boundary. These agreements are not to be construed as a final, formal acceptance of the position of the boundary by either State.

1. We accept the positions of the original boundary stones designated 0, 5, 10, 20, and 35 as indicating the position of the boundary as presently understood.

2. Both parties have previously agreed that the pin under a manhole cover approximately 12 feet north of the present location of original stone 25 represents the true position of that stone. The stone has been relocated because of highway construction.

3. The report of the National Geodetic Survey by B. K. Meade, dated March 27, 1975, indicates the positions of 1-mile boundary markers to be set between the original stones and the pin mentioned above.

4. Parties representing the State of Delaware, the State of Maryland, and the National Geodetic Survey will examine, in the field, the positions of 1-mile boundary markers indicated by the National Geodetic Survey Report of March 27, 1975, to determine the reasonableness of these locations for the placement of monuments. It is understood that the positions indicated may be adjusted along the line the minimum distances necessary to avoid physical obstacles, but will always be positioned on the line between existing original stones or the pin at location 25.

5. The field party shall accomplish its work as soon as practicable and report to a joint meeting of authorized representatives of the States their recommendations for the final positions of 1-mile boundary markers.

6. Markers used to indicate the position of the boundary at 1-mile intervals shall be set in accordance with standard practices of the National Geodetic Survey. A brass disc will surmount the markers on which will be indicated the date of its placement and the Delaware and Maryland sides of the boundary. More elaborate markers may be emplaced in the future if deemed desirable by the two States.

7. On the basis of the establishment of the Transpeninsular Line on land, the States of Delaware and Maryland will continue to work together to attempt to achieve a mutually satisfactory extension of that line seaward from our shores into the Atlantic Ocean.

Signed by representatives of the two States as follows:

STATE OF DELAWARE	STATE OF MARYLAND
State Boundary Commission	Department of Natural Resources, Maryland Geological Survey
by: Robert R. Jordan John A. Munroe William C. Bradley Grover A. Biddle John C. Bryson	by: Kenneth N. Weaver

APPENDIX C

JOINT AGREEMENT BETWEEN THE STATES OF DELAWARE AND MARYLAND

WHEREAS, 29 Delaware Code, Section 202, and 58 Laws of Delaware Chapter 102, and Joint Resolution No. 14, established the Delaware State Boundary Commission; and

WHEREAS, Section 2-402 of the Natural Resources Article of the Maryland Code authorizes and directs the Maryland Geological Survey to examine every monument marking the boundaries of the State, to cooperate with other States to replace, restore, and repair boundary monuments and to make any joint agreement with appropriate officials of adjacent states to delineate more clearly any part of any common boundary; and

WHEREAS, the north-south boundary between Maryland and Delaware, known as the Mason-Dixon Line, was originally surveyed and marked in the years 1763 to 1768; and

WHEREAS, this Mason-Dixon Line was approved by the Legislature of Delaware in 1775; and

WHEREAS, during the intervening years many of the monuments marking the north-south boundary line between Maryland and Delaware have been moved or destroyed; and

WHEREAS, authorized representatives of the State of Delaware and the State of Maryland have met together at Dover, Delaware, on May 7, 1975, for the purpose of considering the locations and marking of points determining the common boundary of the States along the line surveyed by Messrs. Mason and Dixon and known as the Mason-Dixon Line. These deliberations have been attended by representatives of the National Geodetic Survey who have contributed their knowledge and expertise to the resolution of matters before us. Antecedent reports of the National Geodetic Survey and all other information available to the representatives of the States have been reviewed and discussed together with a report of a reconnaissance party consisting of representatives from each State and the National Geodetic Survey that examined each monument and proposed monument location in the field during February, 1975.

NOW, THEREFORE, we are agreed to the following findings concerning the Mason-Dixon Line:

1. Those original boundary stones recovered in good condition and for which no evidence has been discovered indicating that they may have been displaced from their original position shall continue to represent the true and correct position of the mutual boundary of the States of Delaware and Maryland. The specific stones so identified include all of those not identified as exceptions in the following paragraphs. Stones are considered to have been moved from their original positions if they have been determined to lie more than 4 feet from the median line of all stones remaining on the boundary determined in the 1961-62 resurvey of the Mason-Dixon Line by the U.S. Coast and Geodetic Survey.

2. Boundary stones in the positions identified by the numbers 7, 10, 12, 42, 60, 61, 64, and 79 are missing; and all attempts to locate them have failed. These stones are to be replaced by markers consisting of brass discs placed in accordance with standard practice of the National Geodetic Survey in accordance with the positions indicated in the report titled "Boundary Summary" and dated April 10, 1975.

3. Boundary stones in the positions designated by the numbers 11, 18, 20, 34, 37, 46, 63, 72, 73, 75, and 77 have been recovered but are found to be displaced from their original positions. These original stones shall be reset in accordance with the report titled "Boundary Summary" and dated April 10, 1975. Except that the original stone, recently recovered, which reportedly occupied position number 11 shall be reset in position number 42, which is deemed more appropriate due to the physical conditions of the sites.

4. The boundary stone designated as number 0, and also known as Middle Point, is accepted as designating a point on the Mason-Dixon Line; but Maryland and Delaware are unable to agree at this time that Middle Point designates the Southern terminus of that line or is a point on the line known as the Transpeninsular Line.[1]

APPROVED,

STATE OF DELAWARE	STATE OF MARYLAND
State Boundary Commission	Department of Natural Resources
by: Robert R. Jordan William C. Bradley John A. Munroe Grover A. Biddle John C. Bryson	by: Kenneth N. Weaver

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[1] In a Joint Resolution of January 26, 1979 and a Joint Agreement of November 26, 1980, officials of the States of Delaware and Maryland agreed that Middle Point is the junction of the east-west and north-south boundaries between the States. Therefore, the middle point monument is recognized as the western terminus of the Transpeninsular Line (east-west boundary) and the southern terminus of the north-south boundary.

APPENDIX D

LORD HARDWICKE'S DECREE IN PENN VS. BALTIMORE

HIS LORDSHIP DOTH DECLARE that the articles of agreement of the tenth day of May, One Thousand Seven Hundred and Thirty-Two, are valid and obligatory upon the several parties who executed the same or the endorsements thereon and their heirs and assigns and that the said articles are to be specifically executed and performed as between the said parties respectively notwithstanding that the several periods of time therein mentioned and agreed upon are elapsed but that the said articles do not bind or prejudice any prerogative, proper title or interest of the crown in or to the territories, districts or tracts of lands comprised in the said articles or any part thereof, nor any estate, right, interest, or possession of any planted proprietors, tenants, or occupiers of any lands or tenements within the said territories, districts or tracts of in or to any lands, tenements or hereditaments lying within the same which the parties aforesaid had not a right or power by virtue of the respective charters or grants under which they claim to bind or to include. AND HIS LORDSHIP doth therefore order and decree that the said articles of the tenth of May, One Thousand Seven Hundred and thirty-two and the several matters and things therein contained be performed and carried into execution by and between the said parties and every one of them and to that end Hio further ordered that the plaintiffs, Thomas Penn and Richard Penn the father in their own right and as standing in the place of XAXA John Penn, deceased, and the defendant the Lord Baltimore do respectively before the end of three calendar months from this day execute under their hands and seals the several proper instruments appointing and authorizing proper persons not more than seven on each side with full powers to the said seven persons respectively or any three or more of them for the actual running in and laying out the part of a circle and the several lines in the said articles mentioned and such commissions are to give due notice to each other and to affix and agree upon a time or times to begin and proceed in the running or marking and laying out the same, and it is further ordered that the same be begun at ye furthest sometime in the month of November next and be proceeded in according to the said articles and that the said lines be marked out with feasible stones, posts, trees, pillars, buildings, landmarks or other certain boundaries which may remain and continue, and it is further ordered that such boundary be marked on one side with the arms of the said defendant the Lord Baltimore and on the other side with the arms of the plaintiff's, the Penns, and that such lines be completely so run, marked laid out on or before the last day of April, One Thousand, Seven Hundred and Fifty-two. When so done it is further ordered that a true and exact plan and survey thereof with the best and most exact and accurate descriptions that can be given on the same be made up, signed and sealed by the said Commissioners on both sides and by their principals and be entered in all the public offices in the provinces of Maryland and Pennsylvania and the three lower Counties of New Castle, Kent, and Sussex, and that a true copy of such respective instruments for appointing Commissioners when prepared be delivered by the solicitors of the one party to the solicitors of the other party and in case the party shall then doubt such instruments or either of them, it is further ordered that it be referred to Mr. Spicer, one of the masters of this court to settle the same, and two questions in particular having been raised in America by the Commissioners formerly appointed by the defendant the Lord Baltimore and being now in this cause (Viz) whereto a part of the circle agrees by the said articles to be drawn about the town of New Castle therein mentioned ought to be fixed and whether the said area ought to be of a radius or semi-diameter of twelve lines or only of a periphery of twelve miles, and a third question being also made in this cause Viz at what place the cape called in the said articles Cape Henlopen is situated, his Lordship Doth Declare that he is of opinion that according to the true intent and instruction of the said articles the center of the said circle ought to be fixed in the middle of the town of New Castle as near as the same can be computed and that the said circle ought to be of a radius or semi diameter of twelve miles and that Cape Henlopen ought to be deemed and taken to be situated at the place where the same is laid down and described in the map or plan annexed to the said articles to be situated, and therefore His Lordship Doth further order and decree that the said articles be carried into execution accordingly and after the said limits and boundaries shall be so set out and ascertained by said Commissioners, his Lordship Hio further ordered that the plaintiff, Thomas Penn and Richard Penn the father, in their own right and as standing in the place of the said John Penn deceased, and the defendant the Lord Baltimore, to respectively release and convey to each of them and their heirs their respective rights, titles, interests, powers, prerogatives, claims, demands and pretentions in and to the respective territories, districts and lands severally allotted to them according to the Fourth Article contained in the said Articles of Agreement at the costs and charges of the person or persons to whom such release and conveyance shall be made and the said Master is to settle such releases and conveyances if the parties then doubt the same, and all proper parties are to join in such releases and conveyances as the said Master shall direct. But this decree is to be without prejudice to any prerogative, power, property title or interest of His Majesty. his heirs and successors in and to the said territories and districts or tracts of land or any part thereof and also to any estate, right, interest or possession of any of the said planters, proprietors, tenants, or occupiers of, in or to any lands, tenements or hereditaments lying within the same which the parties of the said articles hath not a right or power by virtue of the respective charters or grants under which they claim to bind or (word illegible) and in case His Majesty, his heirs or successors, shall insist upon any power, title or right whatsoever, either on behalf of His Majesty, his heirs or successors or any of his or their subjects residing in or being possessed of or interested in any lands, tenements or hereditaments lying within any of the said territories, districts or tracts of land so as to hinder or obstruct or interrupt the effectual execution or performance of the said articles or any part thereof, then and in every such case any of the parties are to be at liberty to apply to this court from time to time as they shall be advised and His Lordship doth reserve the consideration of any further or other directions to be given as between the plaintiffs and the defendants the Lord Baltimore and the defendants claiming under William Penn, Esquire, deceased, upon any such application and it is further ordered that the plaintiffs do pay unto the defendant the Earl Pollitt the costs of this suit to be taxed by the said Master and that the defendant the Lord Baltimore do pay unto the plaintiff their costs of this suit to this time to be taxed by the said Master, and His Lordship doth reserve consideration of the subsequent costs and all further directions and the time here-in-before limited for the performance of the articles shall be expired and any parties are to be at liberty to resort to the Court as there shall be occasion. THEREFORE we strictly enjoin and command you the said Charles Calvert, Esquire, Lord Baltimore in the kingdom of Ireland effectually to perform full power and execute all and every the matters and things specified and contained in the said decreetal order so far as the same anywise concern you according to the tenor and true meaning thereof and hereof and fail not at your peril.

Witnesses:

Thomas, Archbishop of Canterbury
and of all guardians and justices
of the kingdom at Westminister
the 27th day of October
in the 24th year of our reign.
STRANGE WHITTINGTON

(Appendixes D and E are reproduced from copies of the decrees obtained from Bureau of Archives and Records in Dover, Delaware.)

APPENDIX E

FINAL AGREEMENT BETWEEN LORD BALTIMORE AND PENN HEIRS

INDENTURE OF AGREEMENT, &C., BETWEEN LORD BALTIMORE AND THOS. AND RICH'D PENN, ESQR'S, 4TH JULY, 1760.

THIS INDENTURE, made the Fourth Day of July, in the Thirty-fourth year of the Reign of our Sovereign Lord George the Second, by the Grace of God, of Great Britain, France and Ireland, King, Defender of the Faith, and so forth, and in the year of our Lord one thousand seven hundred and sixty, BETWEEN The Right Honourable Frederick, Lord Baron of Baltimore, in the Kingdom of Ireland, only Son and Heir at Law, Devisee and Residuary Legatee of the Right Honourable Charles, late Lord Baltimore, deceased, and as such, or under some or one of the Settlements hereinafter mentioned, true and absolute Lord and Proprietary of the Province of Maryland, in America, of the one part, and Thomas Penn and Richard Penn, Esquires, Sons and Devisees, under the Will of William Penn, Esquire, their late father, deceased, and true and absolute Proprietarys of the Province of Pensilvania, and Three Lower Counties of Newcastle, Kent and Sussex, on Delaware, in America, of the other part. WHEREAS the said Frederick Lord Baltimore, under and by virture of a certain Charter or Letters Patent, bearing date on or about the Twentieth Day of June, which was in the Eighth Year of the Reign of his late Majesty King Charles the First, and made and granted unto Cecelius then Baron of Baltimore, since deceased, the Great Grandfather of the said Frederick Lord Baltimore, and to his Heirs and assigns, stands seized of and well entitled unto the said Province of Maryland, bounded and described and restrained as in the said Charter is mentioned. AND WHEREAS the said Thomas Penn and Richard Penn, under and by virtue of a certain other Charter, or Letters Patent, bearing date on or about the Fourth Day of March, which was in the Thirty-third year of the Reign of His late Majesty King Charles the Second, and made and granted unto the said William Penn, since deceased, late Father of the said Thomas Penn and Richard Penn, and to his Heirs and Assigns, stand seized of and well entitled, unto the said Province of Pensilvania, bounded and described and restrained as in the said last mentioned Charter is expressed. AND ALSO, under and by virtue of three other Charters or Letters Patent, the first of the same bearing date on or about the Twelfth Day of March, which was in the Sixteenth Year of the Reign of the said late King Charles the Second; The second of the same bearing date on or about the Twenty-ninth day of June, which was in the Twenty-sixth Year of the Reign of his said late Majesty King Charles the Second; and the third of the same, bearing date on or about the Twenty-second day of March, which was in the Thirty-fifth Year of the Reign of the said late King Charles the Second, all the same three last mentioned Charters, or Letters Patent, being made and granted unto his Royal Highness, James, then Duke of York, afterwards King of England, but since deceased, and to His Heirs and Assigns. And also under and by virtue of two several Indentures of Feoffment, with Livery and Seizen and Covenants for further Assurance, each of the same bearing date on or about the Twenty-fourth Day of August, which was in the Year of our Lord One Thousand Six Hundred and Eighty-two, and made and granted by the said James Duke of York, unto the said William Penn, deceased, and to his Heirs and Assigns, and under and by virtue of other mesne Assurances and Conveyances, stand seized of and well entitled to the said Three Lower Counties of Newcastle, Kent and Sussex, on Delaware, in America, bounded and described in such manner as in the said last-mentioned Charters and Indentures of Feoffment, or in some or one of them, are mentioned and described.

AND WHEREAS the said Three Lower Counties of Newcastle, Kent and Sussex, were heretofore called by the name of Delaware, or the Province of Delaware, AND some part of the said Province of Maryland, and also part of the said Three Lower Counties do lie within a certain Peninsula in America, hereafter mentioned, AND the said Provinces of Maryland and Pensilvania, and the said Territory now called the Three Lower Counties of Newcastle, Kent and Sussex, lying adjacent and contiguous, (at least in some parts of the same) each unto the other, very long Litigations and Contests have subsisted, from the Year One Thousand Six Hundred and Eighty-three, down to the present time, and many orders have been pronounced in Council relative thereto. AND WHEREAS, in order to put an end to Litigations and Contests, certain indented Articles of Agreement, bearing date on or about the Tenth Day of May, which was in the Year of Our Lord One thousand Seven Hundred and Thirty-two, were after long and great deliberation entered into and made and executed, under Hands and Seals, and by and between the said Charles, late Lord Baltimore, Father of the said Frederick Lord Baltimore, on the one part, and John Penn, Esquire, the late elder Brother of the said Thomas Penn and Richard Penn, and since deceased, without issue, and the said Thomas Penn and Richard Penn, on the other part, upon the side of which said Articles of Agreement, the like Draft, Plan, Diagram or Figure was printed, or impressed, as is printed or impressed upon one of the skins of parchment whereon this present indenture is engrossed, AND in and by which said Articles of Agreement, (after reciting as therein is recited,) it was agreed (amongst other things) in the words or to the effect following, that is to say, "Now THEREFORE THESE PRESENT ARTICLES WITNESS, That it is hereby mutually and reciprocally covenanted, promised, declared and agreed, by each and every one of the Parties to these Presents, for Himself, and his Heirs, Executors and Administrators, to and with all and every other of the same Parties to these presents, and their several and respective Heirs, Executors and Administrators, in manner and form following, that is to say,

"FIRST, That the Draft or Plan printed upon the margin of this Skin of Parchment which contains a Map of the Peninsula hereinbefore mentioned, and also of the tracts of ground wherein the said Province of Maryland (or part thereof) the said Three Lower Countys, Part of the said Province of Pensilvania and part of Virginia do lye, is a true copy of those which had been sent over from America to the present partys hereto by their respective Agents in those parts, for the assistance and guidance of the said partys in the settling of the said disputes, and by which this present agreement is to be explained and understood.

"SECOND, that there shall be the said circle mentioned in the said charter for Pensilvania, and Deed of Bargain and Sale or Feoffment of Newcastle, (or so much thereof as is requisite) drawn and markt out at the twelve miles distance from the Town of Newcastle, which twelve miles shall be twelve English Statute miles.

"THIRD, That a due East and West line shall be drawn across the said Peninsula (or across so much of it as shall be requisite) such East and West line to begin on the East part at the Place in the said Draft or Map called Cape Henlopen (which lyes South of Cape Cornelius,) upon the Eastern side of the said Peninsula towards the Main Ocean, and at the point of the said Cape, and to run towards the Western side of the said Peninsula, which lyes upon the Chesopeak Bay, but to stop in the exact middle of that part of the same Peninsula, when so running a due East and West course.

"FOURTH, That from the Westward point or end of the said East and West line (which Westward point or end shall be just half way across the said Peninsula,) a straight line shall run Northward, up the said Peninsula, (and above the said Peninsula if it require it) till it shall so touch the Western part of the periphery of the said circle as to make a tangent thereto. The said strait line as at present apprehended will run pretty near South and North, but (however it may bear on the compass) such strait line shall be run Northward up the said Peninsula (and above the said Peninsula if it require it,) and shall begin at and from the Western point or end of the aforesaid East and West line, and shall run until it touches and makes a Tangent to the Western part of the said periphery of the said circle, and there the said straight line shall end.

"FIFTH, That at the Northern point or end of the said strait line, a line shall begin, and shall from thence run due North above the said Peninsula, but so far only until it comes into the same Latitude as Fifteen English Statute Miles, due South of the most Southern part of the City of Philadelphia.

"SIXTH, That a due East and West line shall be run in manner following. It shall begin at the Northern point or end of the said due South and North line, and shall from thence run due West across Susquehannah River, to the utmost Western extent of the said Province of Pensilvania, or so far as in part thereof as shall be at present requisite in regard that as the same is to be due East and West line, the beginning part thereof may be sufficient to continue the same by when further occasion shall require, and when the lands Westward in the said Provinces of Maryland and Pensilvania shall be better settled, and that it would occasion a very great expence, and likewise be at present needless, to run the same to the utmost extent Westward of the said Province of Pensilvania, however the same shall at present be run across Susquehannah River, and about twenty-five English Statute Miles further on the Western side of the said River.

"SEVENTH, That the part of Circle at present drawn with Red Ink upon the said Draft or Plan, and the Red Lines also drawn thereupon, are now drawn to serve as an Explanation to this present Agreement, but not with exact certainty in regard to the said Drafts or Plans so sent over to the Parties as aforesaid, have neither scale or compass to them.

"EIGHTH, That the first above mentioned, due East and West Line, to run from Cape Henlopen to the Middle of the Peninsula, and the said strait Line to run from the Westward Point thereof Northwards up the said Peninsula, (and above the said Peninsula, if it require it,) till it touches or makes a Tangent to the Western part of the Periphery of the said Twelve Miles Circle, and the said due South and North Line to run from such Tangent, till it meet with the Upper or more Northern East and West Line, and the said Upper East and West Line to begin from the Northern point or end of the said South and North Line, and to run due Westward at present cross Susquehanna River, and Twenty-five English Statute Miles at least on the Western side of the said River, and to be Fifteen English Satute Miles South of the Latitude of the most Southern part of the said City of Philadelphia, are and shall be, and shall at all times for ever hereafter, be allowed and esteemed to be the true and exact Limits and Bounds between the said Province of Maryland and the said Three Lower Counties of Newcastle, Kent and Sussex, and between the said Provinces of Maryland and Pensilvania, excepting only, that in case the said North Line from the Tangent of the Circle of Newcastle shall break in upon the said Circle. In such case, so much of the said Circle as shall be cut off by the said Line, shall belong to and be part of the County of Newcastle:

"PROVIDED ALWAYS, and it is hereby mutually covenanted, concluded and agreed by and between the Partys to-these presents, that in case it shall happen in the running or setting out the Lines or Boundarys hereby agreed upon, that the Head or Heads of any River or Rivers leading either into the Bay of Chesopeak or into the Bay of Delaware, or into the Sea, shall remain on one side the Lines and Boundaries hereby agreed to be run or set out, and that the lower part of such River or

Rivers, shall remain within or run through the other Province or Countys, and on the other side of such Lines and Boundarys, then and in such case this Present Agreement, or any matter or thing herein contained is not intended, and shall not in any wise be construed, or extended to give or yield to the People or Inhabitants of the Province or Countys within whose limits the Heads of any such River or Rivers shall, according to this present agreement, fall or remain any sort of Right or Title, to carry on any Commerce into the said Bays of Delaware or Chesopeak, or either of them, or into the Sea, through the lower parts of such River or Rivers which may run through the Territory or Limits of any other Province or Countys, without the leave or licence of the respective Proprietor or Proprietors of the Province or County through whose Territories such Lower parts of the said River or Rivers shall run, first duly had and obtained; This agreement or any thing therein contained to the contrary thereof, in any wise notwithstanding.

"NINTH, That the said Charles Lord Baltimore, and his Heirs and Assigns on his part, and the said John Penn, Thomas Penn and Richard Penn, and their several respective Heirs and Assigns on their parts, shall and will, by fit and proper powers and instruments, within two calendar months from the day of the date of these Presents, authorize and appoint a sufficient number of discreet and proper persons, not more than seven on each side, to be their respective Commissioners, with full power to the said seven Persons, or any three or more of them, for the actual running, marking and laying out the said part of a Circle, and the said before mentioned Lines, which said Commissioners shall give due and proper notice to each other, and shall fix and agree upon a Time or Times, to begin and proceed in the running, marking, and laying out the same; and the same shall be begun at the farthest, some time in the Month of October next, and shall be proceeded in with all fairness, candour and dispatch that may reasonably be; and the said Lines shall be marked out with the visible Stones, Posts, Trees, Pillars, Buildings, Land-marks, or other certain Boundaries, which may remain and continue such Boundaries, to be marked on one side with the Arms of the said Charles Lord Baltimore, and on the other side with the Arms of the Proprietors of Pensilvania, and such Lines shall be compleatly so run, marked and laid out, [as far as by this Agreement is intended,] on or before the twenty-fifth day of December, one thousand seven hundred and thirty-three, and when so done, a true and exact Plan and Survey thereof, with the best and most exact and certain Descriptions that can possibly be given of the same, shall be made up and signed, and sealed by the said Commissioners on both sides, and by their principals, and shall be entered in all the Public Offices in the said several Provinces and Countys. And moreover, it shall be recommended by the respective Proprietors to the Assemblys of the said several Provinces and Countys, forthwith to Pass Acts of Legislature for the Visitation, upon certain fixed days, to be agreed on on both sides, (at least once in every three years,) and for the continual reparation of the said Boundaries and Bound Marks, that no Disputes may hereafter arise concerning the same;

"PROVIDED ALWAYS, And it is hereby agreed, that in case a sufficient Quorum of the Commissioners to be named on either side shall not from Time to Time, according to the Appointments and Adjournments to be made for that purpose, Attend to, Proceed in the marking and running out the Lines and Bounds aforesaid, for want whereof, the same cannot be done within the Time before limited, Then this Present Agreement and every Article and Thing herein contained shall cease, determine, and be void. And then and in such case the Party or Partys, whose Commissioners shall make such default, his or their Heirs, Executors or Administrators, shall and will forfeit and pay to the other Party or Partys, whose Commissioners shall attend his or their Executors or administrators upon Demand, the sum of five thousand Pounds of lawful money of Great Britain.

"TENTH, That the said Charles Lord Baltimore, for himself and his Heirs, doth by these Presents forever renounce, release, and quit claim unto the said John Penn, Thomas Penn and Richard Penn, and their Heirs, All Rights, Titles, Interests, Powers, Prerogatives, Claims, Demands and Pretensions to the said Province of Pensilvania, and to the said Three Lower Countys of Newcastle, Kent and Sussex, to be so bounded as aforesaid, [part at least of the same Three Lower Countys being now known to be comprized within the bounds mentioned in the said Charter of Maryland,] and shall also at he request and Cost in the Law of the said John Penn, Thomas Penn and Richard Penn, and their Heirs, grant, convey and assure in the most effectual manner, the said Province of Pensilvania, and the said Three Lower Countys to be bounded as aforesaid, and all his and their Right, Title, Interest, Powers, Claims and Demands, in and to the said Province of Pensilvania and the said Three Lower Countys to be so bounded as aforesaid, and every part of the same, free of all incumbrances, by the said Cecelius, Baron of Baltimore, Great Grand-father of the said Charles Lord Baltimore, Charles, Grand-father of the said Charles Lord Baltimore, Benedict, Father of the said Charles Lord Baltimore or by him the said Charles Lord Baltimore, Party hereto, his Heirs or Assigns, excepting such Grants and Agreements to Planters, as hereinafter mentioned, unto the said John Penn, Thomas Penn and Richard Penn, and their Heirs, TO HAVE AND TO HOLD, unto the said John Penn, Thomas Penn and Richard Penn, and their Heirs, to the only Use and Behoof of them and their Heirs, forever, in such manner as by them the said John Penn, Thomas Penn and Richard Penn, or their Heirs, or their Council learned in the Law, shall be reasonably devised, advised and required. AND, on the other hand, the said John Penn, Thomas Penn and Richard Penn, for themselves and their Heirs, do by these Presents forever renounce and quit claim unto the said Charles Lord Baltimore, and his Heirs, All Rights, Titles, Interests, Powers, Prerogatives, Claims, Demands and Pretensions to the said Province of Maryland, to be so bounded as aforesaid [part whereof when so bounded being apprehended to be comprized within the bounds mentioned in the said Charter for Pensilvania,] and shall also at the request and Cost in the

Law of the said Charles Lord Baltimore, and his Heirs, grant, convey and assure, in the most effectual manner, the said Province of Maryland, to be so bounded as aforesaid, and all their and every of their Right, Title, Interest, Powers, Claims and Demands, in and to the said Province of Maryland, to be so bounded as aforesaid, and every part of the same [free of all incumbrances by the said Willam Penn the Grand-father, William Penn the Father, Springett Penn, Esquire, deceased, William Penn, the Son, John Penn, Thomas Penn and Richard Penn, their Heirs or Assigns,] excepting such Grants or Agreements to Planters as hereinafter mentioned, unto the said Charles Lord Baltimore and his Heirs, TO HAVE AND TO HOLD, to the said Charles Lord Baltimore and his Heirs, To the only Use and Behoof of him and his Heirs forever, in such manner as by him or them, or his or their Council learned in the Law shall be reasonably devised, advised and required.

"ELEVENTH, AND WHEREAS, during the disputes which have hitherto subsisted, and now are accommodated, between the Partys to these Presents, divers Persons under Grants, Patents, Leases, Warrants, Licences and Agreements, made and granted from, and agreed with, the said Charles Lord Baltimore, and his Ancestors, before the Fifteenth day of May, one thousand seven hundred and twenty-four, may have cleared, occupied and possessed several Parcels of Lands within the limits and bounds hereby yielded and agreed upon for the said Province of Pensilvania, and for the said Three Lower Countys. And in like manner other Persons, under Grants, Patents, Leases, Warrants, Licences and Agreements, made and granted from and agreed with the said John Penn, Thomas Penn and Richard Penn, or their Ancestors before the said Fifteenth day of May, One Thousand Seven Hundred and Twenty-four, may have cleared, occupied and possessed several Parcels of Lands within the limits and bounds hereby yielded and agreed upon for the said Province of Maryland, and it may be proper to quiet such Occupiers and Possessors in their respective Possessions, [which might otherwise be disturbed by this present agreement of the Proprietors,] under some restrictions.

"IT IS THEREFORE mutually agreed, that in order to the Information of the Partys to these Presents touching the Premises, each of the said Proprietors shall have full and free liberty to take Copys at their respective Costs and Charges of all Grants, Patents, Leases, Warrants, Licences and Agreements, which at any Time before the said fifteenth day of May, one thousand seven hundred and twenty-four, have been made or granted by the respective Proprietors or their Ancestors, and under which any of the said Occupiers do hold or Claim any such Parcels of Land. AND in order to quiet and settle such Occupiers, every of them shall and may, upon request and payment of the accustomed Fees in such cases only, have new Grants or Patents from the respective Proprietors, within whose Territory or Limits their Lands, by virtue of or according to this present Agreement shall lye, for the like Estate, Term and Interest is mentioned in their original Grants, Warrants, Leases, Licences or Agreements.

"UPON CONDITION that the said Occupiers respectively, do first Attorn and become Tenants to their respective Proprietors, within whose Territories or Limits their Land now lye, by virtue of or according to this Present Agreement, and do submit themselves in all things to the Government thereof, and do pay to their new Proprietor or Proprietors [unless it shall be dispensed with by him or them] All such Fines, Rents, and Arrearages of Rent and Dutys, as by their Original Grants, Licences or Agreements, were to have been paid to their former Grantor or Proprietor, and which have not been really and bona fide paid to or to the use of such their former Proprietor. AND for the time to come such Occupiers shall be put upon the like Foot and Condition with the rest of the Occupiers and Tenants, who hold Lands in such Parts of the said respective Provinces and Countys as have never been in contest. AND such Occupiers and Tenants claiming originally under another Proprietor as aforesaid, shall hold their Lands and have Patents thereof granted them by their new Proprietor, subject to the like Fines, Rents, Quit-Rents, Duties, Services and Reservations, as the other Landholders are and have been generally subject to, in the respective Provinces and Countys to which they shall belong.

"PROVIDED, ALWAYS, that in cases where any persons, during the disputes which have subsisted between the said Proprietors, have Taken double Titles, that is to say, from both the said Proprietors or their Commissioners or Officers, under which they may have sheltered themselves by Turns, against each of the said Proprietors, and also in cases where any Persons during the said disputes, have, of their own authority, seated themselves down upon any Parcels of Lands without Licence or Authority in Writing, from either of the said Proprietors, such persons in respect of such Lands, are by no means to be included in this present article, but are (however) to be treated with Moderation and with some Regard, and the more so, in case they have heretofore actually paid the usual Quit-Rents and Services to either of the said Proprietors, and provided they bring in, Surrender, or yield up their former Grant, Licence, Warrant, Lease or Agreement, and Submit to hold only under the proper Lord or Proprietor, as the case may be.

"TWELFTH, That in case the Partys hereto can conclude upon any further clauses in favour of the Occupiers of any Lands within the Bounds heretofore disputed, But by these Presents fixed and determined, the same shall be contained in a subsequent Agreement between them. LASTLY, That all the Partys hereto and their Representatives, shall at all Times hereafter, use all friendly Means and Offices to the utmost of their Power, to assist and support this present Agreement, and the several and respective Rights, Interests and Pretensions of the Partys by virtue hereof."

Or to some such or the like Effect, As by the said recited Articles of Agreement, Relation being thereunto had, may appear. AND WHEREAS, the said Charles, late Lord Baltimore, on his Part, and the said John Penn, Thomas Penn and Richard Penn, on their part, severally and respectively executed Commissions, authorizing sundry Persons, as their respective Commissioners, carry the said articles of Agreement into Execution, and to run, mark, and lay out the said Part of a Circle, and the said before mentioned Lines, by the said Articles of Agreement agreed upon, but sundry Objections thereto being raised in America, by the Commissioners on the Part of the said Charles, late Lord Baltimore, the same Articles of Agreement were not carried into Execution; Nor were the several Lines, Part of a Circle, and Boundaries therein agreed upon, markt and run out by the Time mentioned, and agreed upon in the said Articles of Agreement; AND after the Time for compleating the Execution of the said Articles had been expired, to wit, on or about the Eighth day of August, one thousand seven hundred and thirty-four, the said Charles, last Lord Baltimore, caused to be Presented a Petition in his own Name, to his Present Majesty in Council, Praying that his Majesty would, by a farther Charter or Letters Patent, confirm unto him, the said Charles, late Lord Baltimore, and his heirs and assigns, the whole of such Part of the said Peninsula as was contained within the limits of the said Charter, (which had been granted to the said Cecilius, Baron of Baltimore.) Notwithstanding the Words hactenus inculta, in the Recital of the said former Charter or Letters Patent inserted, or to some such or the like Effect; Which said Petition was opposed by a Counter Petition, which was Presented to his Present Majesty in Council, on or about the nineteenth day of December, one thousand seven hundred and thirty-four, on behalf of the said John Penn, Thomas Penn and Richard Penn. AND after Refferrences of each of the said Petitions, and several hearings of Council for the respective Petitioners thereon, and after a Report made upon the said Petition of the said Charles, late Lord Baltimore, his Majesty was most graciously pleased, by his order in Council, bearing date on or about the sixteenth day of May, one thousand seven hundred and thirty-five, to order that the Consideration of the Report, (made on the said Charles, last Lord Baltimore's said Petition) and of the said Petitions, should be adjourned unto the End of Michaelmas Term then next, that the said John, Thomas and Richard Penn, might have an Opportunity to proceed in a Court of Equity to obtain Relief, upon the said Articles of Agreement insisted on by them, according as they should be advised, and that after the Expiration of the said Time, either Party should be at Liberty to apply to the Committee of Council for Plantation Affairs, as the nature of the Case might require; Or to some such or the like Effect, as by the said last mentioned Order in Council, relation being thereunto had, may appear. AND WHEREAS, the said John Penn, Thomas Penn and Richard Penn, in Pursuance of the said last mentioned Order in Council, on or about the twenty-first day of June, one thousand seven hundred and thirty-five, exhibited their Original Bill of Complaint into his Majesty's high Court of Chancery in Great Britain, against the said Charles, last Lord Baltimore, as Defendant thereto; Which Bill was afterwards amended, and Sundry Bills of Revivor and Supplemental Bills were afterwards filed from time to time in the said Cause, upon the decease of the said John Penn, and as other Occasions required, by which several of the Children of the said Richard Penn, and the Executors in Great Britain of the said John Penn, deceased, were additionally made Co-Plaintiffs. And also his Majesty's Attorney General and sundry other Persons, were additionally made other Partys, Defendant thereto. BY WHICH said Bill, the Plaintiffs in the said Cause Prayed (amongst other matters,) that they might be quietted in the Possession of the said Three Lower Countys; And that the said Defendant, Charles, last Lord Baltimore, might be Decreed to Desist from giving them any further Trouble or Molestation, by renewing his old and often Overruled Claims in the said Bill mentioned, and that the said therein recited Articles of Agreement, of the tenth of May, one thousand seven hundred and thirty-two, might be Decreed and declared to exist and subsist, and to be in full force and virtue, and might be decreed to be forthwith specifically Performed, and to be carried into full force and Execution in all Points and Respects whatever. And that all Necessary and Proper Directions might be given in order thereto. And that the Pretended Doubts set forth and mentioned in the said Bill, as to the fixing a Centre for the Circle round the Town of Newcastle. And as to the Dimensions of the said Circle or Distance from the said Town, at which it was to be markt out, and any other Doubt or Pretended Difficulty that the Defendant, the said Charles, last Lord Baltimore, had, or Pretended to have, relating to the said Articles of Agreement, or any thing therein contained, or the Execution and Performance of the same, might be removed and cleared up by the Authority and Decree of the Court. And that the said Defendant might then instantly, and might again, after the said Lines and Bounds should be run, markt and laid out, in a more certain and Particular Manner, Pursuant to his Covenants and Agreements in the said recited Articles of Agreement contained, make further and better Assurances and conveyances to the Plaintiffs, their Heirs and Assigns, of the said Province of Pensilvania, and of the said Three Lower Countys, to be bounded according to the intent and Meaning of the said Articles of Agreement, And of all his Right, Interest, Pretensions, Claim and Demand in and to the same. And that the said Defendant might be Decreed to Pay the Plaintiffs all the Costs and Expences of their Commissioners, and otherwise relating to the Executing the said Agreement of May, one thousand seven hundred and thirty-two, and likewise all the Costs which the Plaintiffs had been any way put to, by reason of the Breach and Non-performance on the Part of the Defendent of the said Articles of Agreement, and by Reason of the said Petition of the said Defendant, Presented to his Majesty on the said eighth of August, one thousand seven hundred and thirty-four. And that the Plaintiffs might have all such further and other Relief in the Premises, and in such other manner as should be consistent with Justice and Equity, or to some such or the like Effect. AND WHEREAS, the said Charles, late Lord Baltimore, put in his Answer or Answers to the said Bill or Bills, and therby (amongst other things) insisted on Fraud and Imposition in obtaining the said Articles of Agreement, and that the said Articles were absolutely void, and were a voluntary Agreement, and without any manner of Consideration given him for entering into the same, and therefore sayd that he hoped the Plaintiffs should not have any such Relief as was prayed by their Bill against him, and that the said Articles should not be carried into Execution by the Aid, Assistance, or direction of the said Court in any respect whatsoever, but should be deliverd up to him to be cancelled, and that the Plaintiffs should be decreed to Pay his Costs and Expences, or to some such or the like Effect. AND WHEREAS the said Cause was carried on in an adversary Manner and at great Expence, and being regularly at Issue, great Numbers of Witnesses were duly examined therein on each side, both in America and in Great Britain. After which the said Cause came on to be heard, and was heard, before The Right Honourable the Lord High Chancellor of Great Britain, in Presence of Council learned for all Partys, on or about the third, fourth, seventh, eighth, ninth, eleventh, and fifteenth days of May, one thousand seven hundred and fifty, and upon the said fifteenth day of May, one thousand seven hundred and fifty, the said Lord Chancellor pronounced a Decree in the said Cause, in the Words or to the Effect following, that is to say, (The Lord Chancellor's decree is quoted in appendix D of this publication.) AND the said Decree hath since been duly Signed and Enrolled, As by the Bills, Answers, and other Proceedings in the said Cause, and the Examinations of the Witnesses therein, and the said Decree, and the Enrollment thereof, duly filed and remaining as of Record in the said Court of Chancery, Relation being thereunto severally and respectively had, may more fully and at large appear. AND WHEREAS, after Pronouncing the said Decree, the said Charles, late Lord Baltimore, submitted thereto, and to the Performance of the same. AND in Obedience to and part performance of the same, Commissions were respectively Executed by the said Charles, late Lord Baltimore, under his Hand and Seal, on his Part, and by the said Thomas Penn and Richard Penn, under their Hands and Seals, on their Part, Authorizing sundry Persons as their respective Commissioners, to carry the said Articles of Agreement and Decree into Execution, and to run and mark out the Lines, part of a Circle and Boundaries so agreed and Decreed. AND the Commissioners proceeded therein; BUT in the Course of such their proceedings, sundry other Objections were raised in America, to some Part of the said Work by the Commissioners, on the Part of the said Charles, late Lord Baltimore. WHEREUPON, the said Thomas Penn, and Richard Penn, on or about the sixteenth day of March, one thousand seven hundred and fifty, Presented their humble Petition to the said Lord high Chancellor of Great Britain (Pursuant to the Reservation contained in the said Enrolled Decree,) humbly setting forth the New Objections which had been so made as aforesaid, and Praying (amongst other Things,) that it might be declared that the Circle round the Town of Newcastle ought to be at twelve miles distance from the Centre, according to Horizontal and not superficial Measure, and that the fifteen Miles due South of the Southernmost Part of the City of Philadelphia, ought to be computed according to the like Measure, or to some such or the like Effect. AND the said Petition came on to be heard before the said Lord high Chancellor, on or about the twenty-seventh and twenty-ninth days of the same Month of March, but in the year one thousand seven hundred and fifty-one, in Presence of Counsel for the said Plaintiffs, and for the said Charles, late Lord Baltimore, and the said Lord high Chancellor, on the said twenty-ninth day of March, on thousand seven hundred and fifty-one, made an Order upon the said Petition to the Effect following, that is to say, His Lordship Declared that the part of a Circle mentioned in the said Decree to be drawn round the Town of Newcastle, ought to be at twelve Miles distance from the Centre, according to horizontal, and not superficial Measure, and that the fifteen Miles due South of the Southernmost Part of the City of Philadelphia, ought to be computed according to the like measure. And did Order that the Commissioners appointed on both sides, should observe that Rule in carrying the said Decree into Execution, and reserved the Consideration of the costs of that Application in like manner as the Costs subsequent to the Hearing were reserved by the said Decree, or to some such or the like Effect, as by the said last mentioned Order, Relation being thereunto had, may appear. AND WHEREAS, the said Charles, late Lord Baltimore, departed this Life in Great Britain, on or about the twenty-third day of April, one thousand seven hundred and fifty one, leaving the said Frederick, Lord Baltimore, his only Son and Heir, then an Infant, and having after the time of pronouncing the said Decree, duly made and executed his last Will and Testament, in Writing, which was attested by three Witnesses, and bears date on or about the seventeenth day of November, one thousand seven hundred and fifty, and having thereby devised his Real Estate and therein mentioned. And after payment of his Debts, Legacys, Funeral Charges, and the Charges of his Executors, devised the residue of his Personal Estate to his said Son, as by the said last Will and Testament, which was soon after the said Testator's decease duly proved by some of the Executors therein named, in common Form, in the Prerogative Court of the Archbishop of Canterbury, Relation being thereunto had, may more fully and at large appear. AND WHEREAS, the Commissioners so decreed to be authorized and appointed, and who were so authorized and appointed by the said Charles, late Lord Baltimore, and by the said Thomas Penn and Richard Penn, severally and respectively as aforesaid, proceeded in America towards the Execution of the said Agreement and Decree, especially in such Parts thereof if which no Difficultys had been before raised. AND more particularly, the said Commissioners on each side, or Quorums of them respectively, upon and before the twenty-sixth day of April, one thousand seven hundred and fifty-one, duly Signed a Minute or Instrument in Writing, declaring it to have been agreed by them; FIRST, That a due West Line should be run, measured, layed out, and marked by Visible Stones, Trees, Buildings or Landmarks, to begin at a Point on the Verge of the Main Ocean, (being at the distance of one hundred and thirty-nine Perches due East from a Stone fixed by the said Commissioners on the Northern part of the Land called Fenwick's Island, near the Four Mulberry Trees there growing,) across the Peninsula to the Bay of Chesopeak, Which fixed Stone was marked on the side thereof turned to the South, with the Arms of the Lord Baltimore, and on the other side thereof turned to the North, with the Arms of the said Thomas Penn and Richard Penn; and SECONDLY, That the said Point and Place of beginning, should be esteemed, taken for, and agreed to be the Place where the Cape, called in the Articles of Agreement between their several Constituents, Cape Henlopen, was situated, and that the said Line, when so layed out, should be esteemed, taken for, and be the East and West Line, which the said Commissioners were directed and empowered to draw across the said Peninsula, by virtue of their several Commissions, according to the third Article of the said Agreement, from the Middle whereof a Tangent Line was to be drawn to the Western Part of the Periphery of a Circle, at twelve Miles distance from the Town of Newcastle, Subject, nevertheless, to the Alteration or Confirmaton by the Right Honourable the Lord high Chancellor of Great Britain, or the Joint Order or Directions of their Constituents, or to some such or the like Effect. AND WHEREAS, the said Commissioners and their Surveyors in consequence of such their Agreement, began, in their own Persons, to Perform and execute the same, and fixed a Meridian Line to their Satisfaction, and measured, or caused to be measured and marked out the said East and West Line, due West from the said Point or Place of Beginning, on the Verge of the Main Ocean, and found the extent of the said West Line from the Verge of the Ocean on the East Part, as far as to a certain Place or Water, called Slaughter's Creek, on the West Part, (at which Place or Water, the said Charles, late Lord Baltimore's said Commissioners insisted the said Line should stop,) amounted to sixty-six Miles and two hundred and forty-eight Perches and an half; But that when such Line was continued on farther West, quite to the Verge of the East side of the Chesopeak Bay, (To which Bay, the Commissioners of the said Thomas Penn and Richard Penn, insisted the said Line ought to run and extend,) the same amounted to sixty-nine Miles and two hundred and ninety-eight Perches, as by the said Commissioners and the Surveyors' Journals and Minutes approved of, and signed by the said respective Commissioners, Relation being thereunto had, may more fully and at large appear. AND WHEREAS, the said East and West Line, when extended West to the verge of the Bay of Chesopeak, runs thro' Taylor's Island, and thro' a small part of James's Island, at near the Southern End of the said James's Island. AND WHEREAS, the measuring and marking out the said East and West Line, was a Work attended with a large and heavy Expence to the Partys, and altho' some part of the said Work was carried on by the Commissioners and Surveyors in America, after the day of the decease of the said Charles, late Lord Baltimore, in Great Britain; Yet the same was bona fide carried on and finished, long before the respective Commissioners in America received any Information there of the death of the said Charles, late Lord Baltimore. AND the consequence of extending the said Line West to the said Bay of Chesopeak is, that according to the said articles of Agreement and Decree, the said Tangent Line to be drawn up the said Peninsula, and to make a Tangent to the Western part of the Periphery of the said Circle, at twelve Miles distance from the Town of Newcastle, is to begin at the middle of the said East and West Line, (that is to say,) at the distance of thirty-four of the said miles and three hundred and nine Perches, from the said point or place of beginning of the said East and West Line, at the said East end of the same East and West Line. AND WHEREAS, the said Thomas Penn and Richard Penn, together with sundry of their children, and the Executors in Great Britain of their deceased Brother, the said John Penn, on or about the eighth day of November on thousand seven hundred and fifty-four, Exhibited into the said Court of Chancery their Bill of Revivor and Supplemetal Bill of Complaint against the said Frederick, Lord Baltimore, and sundry other persons therein named, as partys Defendants thereto, and thereby stated the Proceedings and the said Decree, and subsequent Order which had been obtained in the said former cause against the said Charles, late Lord Baltimore, and also the proceedings of the said Commissioners in America, and the new Question which was made by the Commissioners of the said Charles, late Lord Baltimore, whether the said East and West Line should extend West across the said Peninsula, quite Home to the Bay of Chesopeak, or should stop short thereof at the said other place or Water called Slaughter's Creek, and also the Will and death of the said Charles, late Lord Baltimore, and many other matters. AND thereby prayed, (amongst other Things,) That the said former suit, the said Enrolled Decree and subsequent Order, and all other the proceedings therein, which abated by the death of the said Charles, late Lord Baltimore, might stand and be revived in full force against and be fully, compleatly, and in every part thereof obeyed, performed and executed in all respects, by all and every one of the then Defendants, or by such and so many of them as had received, or did claim, or should appear to have any Estate, Right, Title, Trust, Claim, Demand or Interest in or to the said Province of Maryland, or any part thereof, and that all and every one of the said Defendants might, by the Order and Authority of the said Court be decreed to obey, perform and Execute the said Decree, and every part of the same; And that the said then Defendants might show cause, (if any they had,) why the said Decree and proceedings should not be revived, and might answer the supplemental matters contained in the said Bill, and that the matter whether the said East and West Line should stop at its Western End at Chesopeak Bay, or at any and what particular place short of the said Bay, might be settled by the Judgment of the said Court of Chancery, and for a discovery of all settlements or pretended settlements, or agreements to settle the said Province of Maryland, or any part thereof, and for further Relief, Or to some such or the like Effect. AND WHEREAS, the Plaintiffs in the said Cause, on or about the twenty-first day of November one thousand seven hundred and fifty-four, obtained an Order of the said Court to revive the said former suit and proceedings against the said Frederick, Lord Baltimore. AND WHEREAS, the said Frederick, Lord Baltimore, on or about the twenty-second day of March one thousand seven hundred and fifty-five, put in his plea to part and answer to other part of the said Bill of Revivor and Supplemental Bill. AND by such his plea insisted on certain settlements, said to be made, of the said Province of Maryland, by Indentures of Lease and Release of the thirtieth and thirty-first days of December, in the Year of our Lord one thousand six hundred and ninety-eight, and by other Indentures of Lease and Release, of the tenth and eleventh days of July, in the Year of our Lord one thousand seven hundred and thirty, and that he the said Frederick, Lord Baltimore, by virtue of and under the said settlements, or one of them, was seized to him and the Heirs Male of his Body, of the province of Maryland, which he pleaded in Bar to the Relief sought by the said last mentioned Bill, and insisted that his Right and Interest in and to the said Provinces of Maryland and Pensilvania, and the three Lower Countys, or any of them, ought not to be bound or affected by the Articles of Agreement in the Bill, mentioned to have been executed by his Father, or to some such or the like effect, As by the said last mentioned Bill, Order of Revivor, and Plea and Answer remaining, filed and as of Record in the said Court of Chancery, Relation being unto the same respectively had, may more fully and at large appear. AND WHEREAS, the said Plea was set down and came on to be in part argued before the Right Honourable the Lord High Chancellor of Great Britain, on or about the seventh day of May, one thousand seven hundred and fifty-five. BUT the said Plea was not fully argued or determined, and the Counsel for the said Frederick, Lord Baltimore, then agreed to deliver over Copys of the several Family Settlements and Agreements to Settle, made of the said Province of Maryland, by the said Frederick, Lord Baltimore, and his Ancestors, in order to shew to the Plaintiffs that the said Frederick, Lord Baltimore, was not bound by the said Articles of Agreement so entered into by his said Father, or by the said Decree or subsequent Order so obtained against his said Father as aforesaid, or by any of them. AND ACCORDINGLY, the Agent of the said Frederick, Lord Baltimore, did deliver over unto the Agent of the said Thomas Penn and Richard Penn Copys of one settlement of the said Province of Maryland, bearing date on or about trhe said thirty-first day of December, one thousand six hundred and ninety-eight, and made and executed by way of Lease and Release, by Charles, late Lord Baltimore, the Elder, (late Great Grandfather of the said Frederick, Lord Baltimore,) and by Benedict Calvert, then son and Heir apparent of the same Charles, late Lord Baltimore the Elder, and of another settlement of the said Province of Maryland, bearing date on or about the said eleventh day of July, one thousand seven hundred and thirty, and made and executed by way of Lease and Release, by Charles, late Lord Baltimore, (the late Father of the said Frederick, Lord Baltimore,) and of a certain Indenture of Covenants and Agreements relating to the said Provnce of Maryland, bearing date on or about the ninth day of March, one thousand seven hundred and fifty-three, and entered into and executed by the said Frederick, Lord Baltimore, and the Honourable Cecilius Calvert, Esquire, his Uncle. AND WHEREAS, the said Thomas Penn and Richard Penn, and other the Plaintiffs last mentioned, after that they and their Council had considered the said Deeds as delivered over, Upon Motion made to the said Court of Chancery, did obtain a certain Order of the same Court, bearing date on or about the sixteenth day of the said Month of May, one thousand seven hundred and fifty-five, that the Plaintiffs might be at Liberty to amend their said Bill as they should be advised, on payment of twenty shillings costs, and paid the said costs. AND on or about the sixth day of September, one thousand seven hundred and fifty-five, exhibited and filed in the said Court of Chancery a new Engrossment of their amended Bill of Revivor and supplemental Bill of Complaint, against the said Frederick, Lord Baltimore, and several other Persons as Parties named for Defendants thereto, and thereby charged and put in Issue, as well the several last mentioned Proceedings of the said Commissioners in America, as the said Will and death of the said Charles, late Lord Baltimore, (Father of the said Frederick, Lord Baltimore,) and the said several Family settlements and Indenture of Covenants and Agreements relating to the said Province of Maryland, (Copys whereof had been so delivered over as aforesaid,) and insisted that the said Frederick, Lord Baltimore, was bound by and ought to Perform the said Articles of agreement of the tenth of May, one thousand seven hundred and thirty-two, and the said Enrolled Decree of the fifteenth day of May, one thousand seven hundred and fifty, and the said subsequent Order of the twenty-ninth of March, one thousand seven hundred and fifty-one and also insisted on the Validity of the said Commissioners last mentioned Proceedings, and prayed (amongst other Things,) That the said former suit, Enrolled Decree and subsequent Order, and all other the Proceedings therein, which abated by the Death of the said Charles, late Lord Baltimore, might stand and be revived in full force against, and be fully, compleatly and in every Part thereof obeyed, performed, and executed in all respects by all and every one of the then Defendants, or by such and so many of them as had received, or did claim, or should appear to have any Estate, Right, Title, Trust, Claim, Demand or Interest, in or to the said Province of Maryland, or any part thereof, and that all and every on of the then Defendants might, by the Order and Authority of the said Court, be decreed to obey, perform, and execute the said Decree and every part of the same. And if the Court should not think proper to Decree the Defendants specifically to execute and perform the said Articles of Agreement, and every thing relating thereto, that then the Plaintiffs might have a

Decree for a Discovery and Account of the Real and Personal Assets of the said Charles, last Lord Baltimore, and that the same might be paid to or secured for the Plaintiffs, as well for paying their Costs decreed them as aforesaid, as also for and towards making them a satisfaction for the very great Damages they had already incurred, and for the much greater damages they might thereafter sustain, by the Breach and Non-Execution, and Non-Performance of the said Articles of Agreement of the tenth of May, one thousand seven hundred and thirty-two, or any way relating thereto. And that the said Enrolled Decree and subsequent Order might be Ordered and Decreed to be obeyed, Performed and Executed in all Points, by all and every of the then Defendants, or by such and so many of them as ought to Perform and obey the same, and by their respective Issues, and by all Persons claiming or to claim, by, from, or under them, and every or any of them, and that the Plaintiffs and Proprietaries of Pensilvania might have the Decree and Perpetual Injunction of the Court to hold and Enjoy to them and their Heirs forever, the said Territories and Lands so released by the said Charles, the last Lord Baltimore as aforesaid, by the said Articles of Agreement of May, one thousand seven hundred and thirty-two, as against the Defendants, Frederick, Lord Baltimore, Louisa Calvert and Cecilius Calvert, and their Heirs, Assigns, and respective Issues, and against all Persons claiming or to claim, by, from, thro', under, or In Trust for them or any of them, and that the costs which by the said Decree were Decreed to be paid by the said Charles, Lord Baltimore, and those which by the said Decree and by the said subsequent Order were reserved for the future consideration of the Court, might all be Decreed to be paid by the Defendants, or by such of them as the same might concern, and that the pretended Doubt and Question touching the Extent Westward of the said East and West Line to run cross the said Peninsula, might be cleared up and determined by the authority of the Court, and for the further and other Relief, or to some such or the like Effect, as by the said last mentioned amended Bill of Revivor and supplemental Bill remaining duly filed, and as of Record in the said Court of Chancery, Relation being thereunto had, may more fully and at large appear. AND WHEREAS, the parties to these Presents have come to an amicable Agreement in manner as hereinafter mentioned. NOW THIS INDENTURE WITNESSETH, That for the putting a final and perpetual End for ever to all disputes and differences between the Parties to these Presents, relating to the Extent, Bounds and Limits of the said Province of Maryland, Province of Pensilvania, and the Three Lower Countys of Newcastle, Kent and Sussex on Delaware, in America, and to every or to any of them, and in order that the same Provinces and Countys may respectively be peaceably Possessed and quietly governed by the respective Proprietarys, and that the Busines of the Settlement and Improvement of the same may be carried by the respective Proprietaries without further Interruption, and to as great a degree as may be done, and for the putting and end to that Excessive Expence which the partys on both sides and their respective Ancestors have long sustained, during the said Contests. The SAID Frederick, Lord Baltimore, for himself and his Heirs, Executors, Administrators and Assigns, and for each and every of them, doth acknowledge, testify and declare, and doth also Covenant, Promise, Grant and Agree to, and with the said Thomas Penn and Richard Penn, and their several and respective Heirs, Executors, Administrators and Assigns, and to and with each and every of them, by these Presents in manner and form following, (that is to say,) THAT the Commissioners who had been last so respectively appointed by the said Charles, last Lord Baltimore, on his Part, and by the said Thomas Penn and Richard Penn on their Part, as is hereinbefore mentioned or recited, did duly proceed in the Execution of such Commissions, and did justly agree upon, fix and determine the true spot or point, or Place for Beginning, from whence to Measure the due West Line across the said Peninsula, which was agreed and directed by the said Articles of Agreement and Enrolled Decree. THAT the said spot or point, or place for beginning such due West Line, was and is, and shall at all times for ever hereafter, be established, held, taken and adjudged to be, where the said Commissioners so agreed upon, fixed and determined the same to be, named at a Point on the Verge of the Main Ocean, being at the distance of one hundred and thirty-nine perches due East, from a stone fixed by the said Commissioners on the Northern Part of the Land called Fenwick's Island, near to Four Mulberry Trees there growing, which stone was marked on the side thereof turned to the South, with the Arms of the said Charles, last Lord Baltimore, and on the side thereof turned to the North, with the Arms of the said Thomas Penn and Richard Penn. THAT the said spot or point, or place of beginning such due West Line, was and is, and shall at all times forever hereafter be esteemed, held, taken and adjudged to be the Point of the Cape Hinlopen, mentioned in the said Articles of Agreement of the tenth day of May, one thousand seven hundred and thirty-two, at which the East and West Line across the said Peninsula mentioned in the same Articles, was meant and intended to begin. THAT the said Commissioners and their Surveyors did, in due Manner, rightly fix and settle the true Meridian Line, and did then Proceed justly, according to the said Articles and Decree, and their respective Commissions, and did Measure a true West Line, (from the said spot or Point or place of beginning at the East End thereof,) quite across the said whole Peninsula to the Verge on the Eastern side of the said Bay of Chesopeak at the West End thereof,) in exact Pursuance of the Compliance with the said recited Articles of Agreement and Decree, and the true intent and meaning of the same. THAT the said Commissioners did find and agree that the said West Line measured quite across the said whole Peninsula, to the Length or Extent of sixty-nine Miles and two hundred and ninety-eight Perches. THAT the true Length and Extent of the said West Line was and is, and shall at all Times for ever hereafter be esteemed, held, taken and adjudged to be sixty-nine Miles and two hundred and ninety-eight Perches, and neither more nor less. THAT consequently, the exact middle of such West Line, (from whence the other Line is to begin, which is to run up the said Peninsula till it makes a Tangent, to the Western Part of the Periphery of the said Part of a Circle, at the distance of Twelve English Statute Miles horizontally, measured from the Court House in the said Town of Newcastle,) was and is, and shall at all times forever hereafter be esteemd, held, taken and adjudged to be, at the exact distance of Thirty-four of the said Miles and three hundred and nine Perches so measured, West from the aforesaid Spot or Point, or Place of beginning of the said West Line, as the same were so measured as aforesaid. THAT as the said exact middle of the said Western Line (as now fixed and forever agreed,) will be a very material Bound or Corner mark between the Parties to these Presents two different ways, So in addition to or rather in ascertainment of that Part of the said former Agreement, there shall be at the Joint Expense of the said respective Proprietarys, Partys hereto, and their Heirs, one or more large and remarkable stones erected and setup, and continued for ever there, according to the angle made by the said due West Line, and by the said Tangent Line for dividing the said Peninsula, which stone or stones on the outward sides of the same, facing towards the West and towards the South, shall have the Arms of the said Frederick, Lord Baltimore, graved thereon, and on the inward sides of the same, facing towards the East and towards the North, shall have the Arms of the said Thomas Penn and Richard Penn graved thereon. THAT the said Frederick, Lord Baltimore, and his Heirs and Assigns shall, within the space of thirty days from the date of these Presents, Prepare, execute and issue, under his and their Hands and Seals, one or more Commissions, appointing seven impartial and proper Persons, or any number of them, not less than three, as Commissioners on his and their Parts, to mark, run out, settle, fix and determine all such Parts of the said Circle, Lines, Marks and Boundarys as are not yet compleated, and to carry the said former Articles of Agreement, Decree and subsequent Order, and the Agreement in these Presents contained, into full and compleat Execution, in all respects whatsoever, agreeable to the Plain Intent and true meaning of the same former Articles, Decree and Order, and of these Presents. THAT such Commissioners shall proceed to execute such Commissions with all fairness and Despatch. THAT neither the said Frederick, Lord Baltimore, nor his Heirs, Executors or Administrators, nor any of them, shall at any Time or Times hereafter, be consenting to, aiding, or assisting in, or incourage or promote in any manner whatsoever, or lend his or their, or any of their Name or Names towards the commencing, prosecuting or defending any suit or suits, cause or causes whatsoever, to be commenced, prosecuted or defended in any Court of Law or Equity whatsoever, by any of the Tenants of the said Frederick, Lord Baltimore, or by any of his Grantees, or the Grantees of any of his Ancestors, whereby the Right of the said Thomas Penn and Richard Penn, their Heirs and Assigns, to the said Province of Pensilvania in America, with all and singular the Rights, Loyalties, Members and Appurtenances thereof, and all those Territories and Tracts of Land now called, or known by the name or names of the Three Lower Counties of Newcastle, Kent and Sussex, upon Delaware, in America, with all and singular their and each of their Rights, Royalties, Members and Appurtenances. The said Province and Counties bounded and to be bounded according to the Extent, Bounds and Limits which were agreed by the said Articles of the tenth of May, one thousand seven hundred and thirty-two, and decreed and ordered in and by the said inrolled Decree of the Court of Chancery, and the said subsequent Order of the said Court of the twenty-ninth day of May, one thousand and seven hundred and fity-one, and according to the true intent and meaning of these Presents, May be drawn in question or controverted in any matter whatsoever. THAT the said Frederick, Lord Baltimore, and his Heirs and Assigns, shall and will, on his and their Parts, at all Times, on Request, and at the Costs and Charges of the said Thomas Penn and Richard Penn, their Heirs and Assigns, make do, perform, and execute any further Matter and Thing (exclusive of the Acts hereby stipulated and intended to be Performed at a joint Expence,) which shall any way be necessary to be done, for rendering the said former Articles of Agreement, Decree and subsequent Order, and these presents, most perfect, valid, Sure and effectual, at all Times for ever hereafter. THAT the said Frederick, Lord Baltimore, shall and will, within three days after the Execution of these Presents, in his own proper person, duly acknowledge his Execution of this present Indenture, and his Consent that the same may be Enrolled before one of the Masters of the said Court of Chancery, to the intent that the same may be enrolled in the said Court. THAT the said Frederick, Lord Baltimore, shall and will, within thirty days next after that a Bill shall be filed by the said Thomas Penn and Richard Penn or their Heirs, against the said Frederick, Lord Baltimore, in the said Court of Chancery, for carrying the said Matters and Things contained in these Presents into Execution, duly put in his Answer thereto, and in such Answer shall and will admit all such matters as are herein by him admitted, and particularly that he, the said Frederick, Lord Baltimore, and all Persons claiming or to claim the said Province of Maryland, by, thro', from or under him, shall be bound to obey and perform the said former Articles of Agreement, and the said Enrolled Decree and subsequent Order of the said Court of Chancery, and also the said Proceedings of the said Commissioners, in and about the said spot or point, or place of beginning of the said West Line, and in and about the said Meridian Line, and in and about the running and measuring the said Line due West across the said Peninsula, and in and about the true Length and Extent of the said West Line as aforesaid, and that such Bill and answer shall be settled with the approbation of Council on both sides. THAT neither in such answer or at any other Time, or in any other Manner, shall the said Frederick, Lord Baltimore, his Heirs or Assigns, or any his or their Council or Agents, demand or Pray any Costs to be decreed or Ordered to him or them in

Respect of the said present suit now depending. But the said present suit and all proceedings therein shall be forthwith dismissed, upon a proper application to be forthwith made by the said Frederick, Lord Baltimore, to the Court of Chancery, as for want of Prosecution. THAT upon Request made to the said Frederick, Lord Baltimore, or his Clerk in Court or Solicitor, after such Answer shall be put in, the said Frederick, Lord Baltimore, or his Clerk in Court, shall instantly sign or otherwise give a full Consent, for setting the said Cause down to be heard before the Lord Chancellor or Lord Keeper of the Great Seal of Great Britain, upon Bill and upon such Answer. THAT the said Frederick, Lord Baltimore, shall by his Council appear gratis, to hear the said Cause at such Time as shall be appointed for the same, without being served with a subpena for that purpose. THAT at such hearing, and on other necessary Occasions, the said Frederick, Lord Baltimore, and his Heirs and Assigns, and his and their Council and Agents on his and their parts, shall and will Consent and agree that a Decree be pronounced against him, and them agreeable in all respects to the true intent and meaning of these Presents, and of the Partys hereto, as the same are mentioned and expressed in these Presents; and further, that Liberty be therein reserved for either Party to apply to the Court for further Directions as they shall be advised, and to Pray no Costs to the time of the hearing, and to Consent that the subsequent Costs be reserved. THAT the said Frederick, Lord Baltimore, his Heirs or Assigns, shall not at any Time or in any manner whatsoever, oppose such Decree as shall be so made in the said Cause, Pursuant to the true intent and meaning of these Presents, or the signing and Enrolling such Decree. AND THAT in case the said Thomas Penn and Richard Penn, or their Heirs or Assigns, shall at any Time hereafter, (whether before or after the said Cause in Chancery shall be heard,) be desirous to lay this Present Indenture and the matters hereinbefore mentioned, or any of them, by an humble Petition before his Majesty, his Heirs or Successors, in his or their Privy Council, and humbly to pray the Royal Allowance, Ratification and Confirmation of the said former Articles of Agreement, and the said Enrolled Decree and subsequent Order of the said Court of Chancery, and of these Presents, to be forever established as between the respective Proprietarys of the said Provinces and Counties for the Peace and Welfare of the same, and of his Majestys subjects in those Parts, The said Frederick, Lord Baltimore, his Heirs and Assigns shall forthwith, upon request, join in and become a Co-Petitioner or Co-Petitioners therein, or otherwise, with his and their own hands, sign a full Consent to such Petition at the foot thereof, and shall and will, by all other fitting and Proper means, give his and their full Consent and agreement to the same, either in his and their own proper Persons, or by such other means as shall be most valid and effectual. AND WHEREAS, the said Thomas Penn and Richard Penn, and their Ancestors and Predecessors, by themselves, or by some of their Tenants, Grantees or Agents, under their Right and Title, have been from Time to Time and now are in the actual Possession of all the Lands, Tenements and Hereditaments hereinafter mentioned to be hereby released by the said Frederick, Lord Baltimore, unto the said Thomas Penn and Richard Penn and their Heirs.

NOW THEREFORE, THIS INDENTURE FURTHER WITNESSETH, That for the Ends and Purposes, and from the motives aforesaid, and in order to render these Presents the most valid that may possibly be, and for and in Consideration of five shillings of lawful money of Great Britain to the said Frederick, Lord Baltimore, in hand paid, by the said Thomas Penn and Richard Penn, at or before the sealing and delivery of these Presents, the Receipt whereof is hereby acknowledged, HE, the said Frederick, Lord Baltimore, for himself and his Heirs, HATH released, renounced and quitted Claim, and by these Presents DOTH fully and absolutely release, renounce, and quit claim unto the said Thomas Penn and Richard Penn, and to their Heirs and Assigns forever, ALL that the said Province of Pensilvania, in America, with all the singular the Rights, Royalties, Members and Appurtenances thereof; AND ALL those Territories and Tracts of Land now called or known by the name or names of the Three Lower Countys of Newcastle, Kent and Sussex, upon Delaware, in America, with all and singular their and each and every of their Rights, Royalties, Members and Appurtenances. The said Province and Countys bounded and to be bounded according to the Extent, Bounds and Limits, which were agreed by the said Articles of Agreement of the tenth day of May one thousand seven hundred and thirty-two, and Decreed and Ordered in and by the said Enrolled Decree of the said Court of Chancery, and the said subsequent Order of the said Court of the twenty-ninth day of March one thousand seven hundred and fifty-one, and according to the true intent and meaning of these Presents, and the Reversion and Reversions, Remainder and Remainders, Yearly and other Rents, Issues and Profits, and Arrears of Rents, Issues and Profits, of all and singular the said Province of Pensilvania and three Lower Counties of Newcastle, Kent and Sussex, and of each and every of the same, and all the Estate, Right, Title, Interest, Property, Power, Prerogative, Claim, Demand and Pretensions whatsoever of the said Frederick, Lord Baltimore, and his Heirs, of, in, and to the same, and every or any part or parts of the same. PROVIDED ALWAYS, and it is hereby declared and agreed, by and between the said Partys to these Presents, and it is the true intent and meaning of them and of these Presents, That neither these Presents, nor any Clause, Article, Matter or Thing whatsoever therein contained shall extend, or be deemed, construed, or taken to extend to the right of any Grantee or Grantees, and those claiming under them, to any the Farms, Lands, Tenements or Hereditaments, now in the actual possession and occupation of all and every, or any the Tenants or Occupiers of the said Provice, Lands, Hereditaments and Premises hereby released, or intended, or agreed to be hereby released, as aforesaid, Which have been at any time and in any Way or Manner heretofore granted, by or under the authority of the said Frederick, Lord Baltimore, or by or under the authority of any of the Ancestors of him, the said Frederick, Lord Baltimore. But that it shall and may be lawful to and for all and every such Tenants and Occupiers of the same Premises and every part thereof, their and every of their Heirs, Executors, Administrators and Assigns, from Time to Time, and all times hereafter; TO HOLD AND ENJOY their said Farms, Lands, Tenements and Hereditaments, and every of them, and every part thereof, for and during all and every such their several and respective Estates, Terms and Interests in the same, and every of them, and every part thereof, subject, nevertheless, to and by, and under all and every the same Quit-Rents, Reservations and Services to be from henceforth payed, rendered and performed to the Proprietarys of the said Province of Pensilvania for the Time being, as they the said Tenants and Occupiers and every of them were lyable at the Time, of and immediately before the Execution of these Presents, to have paid, rendered and performed to the Proprietary of the said Province of Maryland, any thing hereinbefore contained, to the contrary in any wise notwithstanding. PROVIDED ALSO, and it is hereby further declared and agreed by and between the said Parties to these Presents, and it is the true intent and meaning of them and of these Presents, That neither these Presents, nor any Clause, Article, Matter or Thing whatsoever therein contained, shall extend or be deemed, construed or taken to extend to the Right of any Grantee or Grantees, and those claiming under them, to any the Farms, Lands, Tenements or Hereditaments, which are situate, lying and being on the West side of the River Susquehanna, and within the space or distance of one Quarter of a Mile more North than the East and West Line mentioned in the sixth article of the said Articles of Agreement of the tenth day of May one thousand seven hundred and thirty-two, and which have been at any Time and in any Manner heretofore granted, by or under the authority of the said Frederick, Lord Baltimore, or by or under the authority of any of the Ancestors of him, the said Frederick, Lord Baltimore, and are now in the actual Possession or Occupation of All, every, or any the Tenants or Occupiers of the said Province, Lands, Hereditaments and Premises; Nor to the Estate, Right, Title, or Interest of such Tenants or Occupiers, or any of them, in or to the said Lands and Premises last mentioned, or any Part thereof. But that it shall and may be lawful, to and for all and every such Tenants and Occupiers of the said last mentioned Lands and Premises and every Part thereof, their and every of their Heirs, Executors, Administrators and Assigns, from Time to Time, and at all Times hereafter, TO HOLD AND ENJOY their said Farms, Lands, Tenements and Hereditaments, and every of them, and every part thereof, for and during all and every their several and respective Estates, Terms and Interests in the same, and every of them, and every part thereof, subject, nevertheless, to and by, and nder all and every the same Quit-Rents, Reservations and Services to be from henceforth paid, rendered and performed to the Proprietarys of the said Province of Pensilvania for the Time being, as They the said Tenants and Occupiers, and every of them, were lyable at the time of and immediately before the Execution of these Presents, to have paid, rendered and performed to the Proprietary of the said Province of Maryland, any thing hereinbefore contained to the contrary in any wise notwithstanding. AND THIS INDENTURE ALSO WITNESSETH, That for putting a final and perpetual End forever to all Disputes and Differences between the parties to these Presents, relating to the Extent, Bounds and Limits of the said Province of Maryland, Province of Pensilvania, and the Three Lower Countys of Newcastle, Kent and Sussex, on Delaware, in America, and to every or to any of them; and in order that the same Provinces and Countys may respectively be peaceably possessed and quietly governed by the respective Proprietarys, and the Business of the Settlement and Improvement of the same may be carried on by the respective Proprietarys without further Interruption, and to as great a Degree as may be done, and for the putting an End to that excessive Expence which the Partys on both sides and their respective Ancestors have long sustained during the said Contests. THE SAID Thomas Penn for himself and his Heirs, Executors, Administrators and Assigns, and for each and every of them, and the said Richard Penn for himself and his Heirs, Executors, Administrators and Assigns, and for each and every of them, Do acknowledge, testify and declare, and do also Covenant, promise, grant and agree, to and with the said Frederick, Lord Baltimore, his Heirs, Executives, Administrators and Assigns, and to and with each and every of them, by these Presents, in Manner and form following, that (is to say,) THAT the Commissioners who had been last so respectively appointed by the said Charles, last Lord Baltimore, on his part, and by the said Thomas Penn and Richard Penn on their part, as is hereinbefore mentioned or recited, did duly proceed in the Execution of such Commissions, and did justly agree upon, fix, and determine the true Spot or Point, or Place for beginning, from whence to Measure the due West Line across the said Peninsula, which was agreed and directed by the said Articles of Agreement and Enrolled Decree. THAT the said Spot or Point, or Place for beginning such due West Line was and is, and shall at all Times forever hereafter be established, held, taken and adjudged to be, where the said Commissioners so agreed upon, fixed and determined the same to be, Namely, at a Point on the Verge of the Main Ocean, being at the distance of one hundred and thirty-nine Perches due East from a stone fixed by the said Commissioners, on the Northern Part of the land called Fenwick's Island, near to four Mulberry Trees there growing, which stone was marked on the side thereof turned to the South with the Arms of the said Charles, last Lord Baltimore, and on the side thereof turned to the North with the Arms of the said Thomas Penn and Richard Penn. THAT the said spot or point, or place of beginning such due West Line was and is, and shall at all Times forever hereafter be esteemed, held, taken, and adjudged to be the Point of the Cape of Hinlopen mentioned in the said Articles of Agreement of the tenth day of May, one thousand seven hundred and thirty-two, at which the East and West Line across the said

Peninsula mentioned in the same Articles, was meant and intended to begin. THAT the said Commissioners and their Surveyors did, in due manner, rightly fix and settle the true Meridian Line, and did then proceed justly, according to the said Articles and Decree, and their respective Commissions, and did measure a true West Line from the said Spot or Point, or Place of beginning at the East End thereof, quite across the said whole Peninsula to the Verge on the Eastern side of the said Bay of Chesopeak, at the West end thereof, in exact Pursuance of and Compliance with the said recited Articles of Agreement and Decree, and the true intent and meaning of the same. THAT the said Commissioners did find and agree that the said West Line measured quite across the said whole Peninsula, to the Length or Extent of sixty-nine Miles and two hundred and ninety-eight Perches. THAT the true Length and Extent of the said West Line was and is, and shall at all times for ever hereafter be esteemed, held, taken, and adjudged to be sixty-nine Miles and two hundred and ninety-eight Perches, neither more nor less. THAT consequently the exact Middle of such West Line, (from whence the other Line is to begin, which is to run up the said Peninsula till it makes a Targent to the Western Part of the Periphery of the said Part of Circle, at the distance of twelve Engish Statute Miles horizontally, measured from the Court House in the said Town of Newcastle,) was and is, and shall at all Times for ever hereafter be esteemed, held, taken and adjudged to be at the exact distance of Thirty-four of the said Miles and three hundred and nine perches so measured, West from the aforesaid Spot or Point, or Place of beginning of the said West Line, as the same were so measured as aforesaid. THAT as the said Exact Middle of the said Western Line (as now fixed and forever agreed,) will be a very material Bound or Corner-Mark between the said Parties to these Presents two different Ways, so in addition to, or rather in ascertainment of that part of the said former Agreement, there shall be at the joint Expence of the said respective Proprietarys, Parties Hereto, and their Heirs, one or more large and remarkable stones erected or set up, and continued for ever there, according to the angle made by the said due West Line, and by the said Tangent Line for dividing the said Peninsula; Which stone or stones on the Inward side of the same facing towards the East, and towards the North, shall have the Arms of the said Thomas Penn and Richard Penn graved thereon, and on the outward sides of the same facing towards the West and towards the South, shall have the Arms of the said Frederick, Lord Baltimore, graved thereon. THAT the said Thomas Penn and Richard Penn, and their Heirs and Assigns, shall and will, within the space of thirty days from the date of these Presents, prepare, execute and Issue, under their Hands and Seals, one or more Commissions, appointing seven impartial and proper persons, or any number of them, not less than Three, as Commissioners on their Parts, to mark, run out, settle, fix and determine, all such Parts of the said Circle, Lines, Marks and Boundarys, as are not yet compleated, and to carry the said former Articles of Agreement, Decree and subsequent Order, and the Agreements in these Presents contained, into a full and compleat Execution in all respects whatsoever, agreeable to the Plain Intent and true meaning of the same former Articles, Decree and Order, and of these Presents. THAT such Commissioners shall proceed to Execute such Commissions with all fairness and Dispatch; THAT neither the said Thomas Penn, his Heirs, Executors or Administrators, nor the said Richard Penn, his Heirs, Executors or Administrators, nor any of them, shall at any Time or Times hereafter be consenting to, aiding or assisting in, or incourage or promote in any manner whatsoever, or lend his or their or any of their name or names towards the Commencing, Prosecuting or defending any suit or suits, cause or causes whatsoever, to be Commenced, Prosecuted, or defended in any Court of Law or Equity whatsoever, by any of the Tenants of the said Thomas Penn and Richard Penn, or either of them, or by any of their or either of their Grantees, or the Grantees of their or any of their Ancestors, whereby the Right of the said Frederick, Lord Baltimore, his Heirs and Assigns, to the said Province of Maryland, in America, with all and singular the Rights, Royalties, Members and Appurtenances thereof, bounded and to be bounded according to the Extent, Bounds and Limits which were agreed by the said Articles of the tenth day of May one thousand seven hundred and thirty-two, and decreed and ordered in and by the said inrolled Decree of the Court of Chancery, and the said subsequent Order of the said Court, of the twenty-ninth day of May one thousand seven hundred and fifty-one, and according to the true intent and meaning of these Presents, may be drawn in Question or controverted in any manner whatsoever. THAT the said Thomas Penn and Richard Penn, and their Heirs and Assigns, shall and will on his and their Parts, at all Times, on Request, and at the Costs and Charges of the said Frederick, Lord Baltimore, his Heirs and Assigns, make, do, Perform and Execute any further Matter and Thing (exclusive of the Acts hereby stipulated to be Performed at a joint Expence,) which shall any way be necessary to be done for rendering the said former Articles of Agreement, Decree and subsequent Order, and these Presents, most Perfect, valid, sure and effectual, at all Times forever hereafter. THAT the said Thomas Penn and Richard Penn shall and will, within Three Days after the said Frederick, Lord Baltimore, shall have acknowledged the due Execution of these Presents in such manner as he hath hereinbefore agreed to do, cause these Presents to be Enrolled in his Majesty's high Court of Chancery. THAT the said Thomas Penn and Richard Penn shall and will, within Thirty days next after they can or may obtain an Office Copy of such Answer as aforesaid, which the said Frederick, Lord Baltimore, hath hereinbefore agreed to put in as aforesaid to the said Bill, to be filed for the Purposes aforesaid, make proper application to the said Court of Chancery to have the said Cause set down for hearing, by Consent upon Bill and Answer, at some early Day, so soon as the said Court shall think fit to appoint for that purpose, and shall and will previously give notice of such intended application, either unto the said Frederick, Lord Baltimore, or unto his Clerk in Court, or Solicitor, in Order to have a full and proper Consent thereto, on the Part of the said Frederick, Lord Baltimore. THAT the said Thomas Penn and Richard Penn shall and will set down the said cause to be heard at such Time as shall, on such Application be appointed for the same, and shall and will by their Council, duly attend the hearing of the same. THAT on the Hearing of the said Cause, the said Thomas Penn and Richard Penn shall and will by their Council, consent and pray that all Partys may have Liberty to resort to the Court from Time to Time, for further Directions, in case any Difficulty or Doubt should happen to arise in the carrying the said former Decree and subsequent Order, or any Decree or Order to be hereafter made in the said Cause into Compleat Execution, and shall not Pray any Costs in the said Cause to the time of the hearing, and shall consent that the subsequent costs be reserved. THAT neither at the Time of Hearing the said Cause upon such Answer, Consent and Submissions as aforesaid, or at any other subsequent Time, shall the said Thomas Penn or Richard Penn, or their Heirs or Assigns, or any of their Counsel or Agents, demand or Pray any Costs to be Decreed or Ordered to him or them, in Respect of the present suit now depending. But the said present suit and all proceedings therein shall be forthwith dismissed, upon a proper Application to be forthwith made by the said Frederick, Lord Baltimore, to the Court of Chancery, as for want of Prosecution. THAT the said Thomas Penn and Richard Penn, or their Heirs or Assigns, shall not at any Time or in any Manner whatsoever, oppose such Decree as shall be so made upon such consent as aforesaid, in the said Cause to be commenced by the said Thomas Penn and Richard Penn, Pursuant to the true intent and meaning of these Presents hereinbefore declared or expressed, or the signing and Enrolling of such Decree. THAT in case the said Frederick, Lord Baltimore, or his Heirs or Assigns, shall at any Time hereafter (whether before or after the said Cause in Chancery shall be heard,) be desirous to lay this Present Indenture and the Matters hereinbefore mentioned, or any of them, by an humble Petition before his Majesty, his Heirs or Successors, in his or their Privy Council, and humbly to Pray the Royal Allowance, Ratification and confirmation of the said former Articles of Agreement, and the said Enrolled Decree and subsequent Order of the said Court of Chancery, and of these Presents, to be forever established as between the respective Proprietarys of the said Provinces and Countys, for the Peace and Welfare of the same, and of his Majesty's subjects in those Parts. The said Thomas Penn and Richard Penn, and their Heirs and Assigns, shall forthwith upon Request, join in and become Co-Petitioners therein, or otherwise with their own Hands sign a full consent to such Petition at the foot thereof, and shall and will by all other fitting and Proper Means, give their full consent and agreement to the same, either in their own proper Persons, or by such other means as shall be most valid and effectual. AND for the Consideration aforesaid, the said Thomas Penn for himself and his Heirs, Executors, Administators and Assigns, and for each and every of them, And the said Richard Penn for himself and his Heirs. Executors, Administrators and Assigns, and for each and every of them, Do and each of them DOTH hereby further Covenant, Promise and Agree to and with the said Frederick, Lord Baltimore, his Heirs, Executors and Administrators, and every of them, That they the said Thomas Penn and Richard Penn, and each of them, their and each of their Heirs, Executors and Administrators, and also some or one of the Executors of the last Will and Testament of the said John Penn, deceased, shall and will, on the day after the date and Execution of these Presents, upon Request to be to them made in that Behalf, and for the Consideration of the sum of one shilling only, to be to them Paid, but at the Costs in the Law of the said Frederick, Lord Baltimore, his Heirs, Executors or Administrators, Give and Execute unto him or them, and unto the Executors of the said Charles, last Lord Baltimore, and also unto the Executors of the said Samuel Ogle and John Sharpe, two of the said Executors, who are since dead, and unto all and every other Person or Persons claiming or to claim, by, from, or under the said Charles, Lord Baltimore, and Frederick, Lord Baltimore, or either of them, and also unto all and every the Estates, Real and Personal, of the said Charles, Lord Baltimore, a full Receipt, Acquittance, Discharge and Release, for all and every such costs as by te said former Decree and subsequent Order were Decreed to be Paid by the said Charles, last Lord Baltimore, or were reserved for the future consideration of the said Court of Chancery, and for all Costs and Damages which they the said Thomas Penn and Richard Penn, and the Executors of the said John Penn can or may at any Time hereafter, have or claim against the said Frederick, Lord Baltimore, or the Executors of the said Charles, Lord Baltimore, or any other the Person or Persons aforesaid, by virtue of the said Agreement of the tenth day of May, one thousand seven hundred and thirty-two, Decree and Order and other the Proceedings aforesaid, any or either of them, or otherwise howsoever to the day of the date of these Presents. AND WHEREAS, the said Frederick, Lord Baltimore, and his Ancestors and Predecessors, by him or themselves, or by some of his or their Tenants, Grantees or Agents, under his or their Right and Title, have been from Time to Time, and now are in the Actual Possession of all the Lands, Tenements and Hereditaments hereinafter mentioned to be hereby released by the said Thomas Penn and Richard Penn unto the said Frederick, Lord Baltimore, and his Heirs. NOW THEREFORE THIS INDENTURE MOREOVER WITNESSETH, That for the Ends and Purposes, and from the motives aforesaid, and in Order to render these Presents the most valid that may Possibly be, and for and in consideration of five shillings of lawful money of Great Britain, to the said Thomas Penn and Richard Penn in hand Paid by the said Frederick, Lord Baltimore, at or before the sealing and delivery of these Presents, the Receipt whereof is hereby acknowledged, THEY, the said Thomas Penn and Richard Penn, for themselves and their Heirs, HAVE released, renounced, and quitted claim, and by these Presents Do fully and absolutely Release, renounce, and quit claim unto the said Frederick, Lord Baltimore, and to his Heirs and Assigns forever, ALL that the said Province of Maryland, in America, with all and singular the Rights, Royalties, Members and Appurtenances thereof, bounded and to be bounded according to the Extent, Bounds and Limits, which were agreed by the said Articles of Agreement of the tenth day of May one thousand seven hundred and thirty-two, and decreed and ordered in and by the said Enrolled Decree of the said Court of Chancery, and the said subsequent Order of the said Court, of the twenty-ninth day of March, one thousand seven hundred and fifty-one, and according to the true intent and meaning of these Presents, and the Reversion and Reversions, Remainder and Remainders, yearly and other Rents, Issues and Profits, and arrears of Rents, Issues and Profits of all and singular the said Province of Maryland, and all the Estate, Right, Title, Interest, Property, Power, Prerogative, Claim, Demand and Pretensions whatsoever of the said Thomas Penn and Richard Penn, and their Heirs, of, in, and to the same, and every or any Part or Parts of the same; PROVIDED ALWAYS, and it is hereby declared and agreed by and between the said Partys to these Presents, and it is the true intent and meaning of them and of these Presents, That neither these Presents, nor any Clause, Article, Matter or Thing whatsoever therein contained, shall extend or be deemed, construed, or taken to extend to the Right of any Grantee or Grantees, and those claiming under them, to any the Farms, Lands, Tenements, Hereditaments now in the Actual Possession or Occupation of all, every, or any the Tenants or Occupiers of the said Province, Lands, Hereditaments and Premises hereby released, or intended or agreed to be released as aforesaid, Which have been at any Time and in any Manner heretofore granted, by or under the authority of the Proprietarys of the said Province of Pensilvania for the Time being; But that it shall and may be lawful to and for all and every such Tenants and Occupiers of the same Premises and every Part thereof, their and every of their Heirs, Executors, Administrators and Assigns, from Time to Time, and at all Times hereafter, to hold and enjoy their said Farms, Lands, Tenements and Hereditaments and every of them, and every Part thereof, for and during all and every such their several and respective Estates, Terms and Interests in the same, and every of them, and every part thereof, subject, nevertheless, to and by, and under all and every the same Quit-Rents, Reservations and Services to be from henceforth paid, rendered and Performed to the Proprietary of the said Province of Maryland for the Time being, as they the said Tenants and Occupiers, and every of them, were lyable at the time of and immediately before the Execution of these Presents to have paid, rendered and Performed to the Proprietarys of the said Province of Pensilvania, any thing hereinbefore contained to the contrary in any wise notwithstanding. PROVIDED ALSO, and it is hereby further declared and agreed, by and between the said Parties to these Presents, and it is the true intent and meaning of them, and of these Presents, That neither these Presents nor any Clause, Article, Matter or Thing whatsoever therein contained, shall extend, or be deemed, construed, or taken to extend to the Right of any Grantee or Grantees, or those claiming under them, to any the Farms, Lands, Tenements or Hereditaments, which are situate, lying and being on the East side of the River Susquehannah, and within the space or Distance of One Quarter of a Mile more South than the East and West Line mentioned in the sixth Article of the said Articles of Agreement, of the tenth day of May, one thousand seven hundred and thirty-two, and which have been at any Time and in any Manner heretofore granted by or under the Authority of the Proprietarys of the said Province of Pensilvania for the Time being, and are now in the actual Possession or Occupation of all, every, or any the Tenants or Occupiers of the said Province, Lands, Hereditaments and Premises. But that it shall and may be lawful to and for all and every such Tenants and Occupiers of the said last mentioned Lands and Premises, and every Part thereof, their and every of their Heirs, Executors, Administrators and Assigns, from Time to Time, and at all Times hereafter, to hold and enjoy their said Farms, Lands, Tenements, Hereditaments, and every of them, and every Part thereof, for and during all and every their several and respective Estates, Terms and Interests in the same, and every of them, and every part thereof, subject, nevertheless, to and by, and under all and every the same Quit-Rents, Reservations and Services, to be from henceforth paid, rendered and Performed to the Proprietary of the said Province of Maryland for the Time being, as they the said Tenants and Occupiers, and every of them, were liable at the Time of and immediately before the Execution of these presents to have Paid, rendered and Performed to the Proprietarys of the said Province of Pensilvania, any Things hereinbefore contained to the contrary in any wise notwithstanding. IN WITNESS whereof, the said Parties before named to this Present Indenture, their Hands and Seals have hereunto set, the Day and Year first above written. F.[L.S.] BALTIMORE, THO.PENN,[L.S.]

RICH'D [L.S.] PENN.

(ACKNOWLEDGEMENT ON THE MARGIN.), Acknowledged by the Right Honourable Frederick, Lord Baron, of Baltimore, and Thomas Penn and Richard Penn, Esquires, the 4th day of July, 1760, before T. Harris.

(Attestation Endorsed)

Sealed and Delivered by all the Parties within named, (being first duly stampt,) In the Presence of

STIRLING, JOHN LEWIS,
HEN. WILMOT,
HUGH HAMERSLEY,
JOHN'A LANCASTER.

Enrollment Endorsed.

"Enrolled in his Majesties High Court of Chancery, another Part of this Indenture, the fourth day of July, in the Year of our Lord, 1760, being first duly stampt, according to the Tenor of the Statue made in the Sixth year of the Reign of their late matyes King Wm. and Queen Mary.

BY HUMPH. HACKSHAW"